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PATTERNS OF CHOICE AND THE CONSERVATION OF RESOURCES

by Walter Firey†

ABSTRACT

A sample of laymen's statements concerning the conservation of an agricultural resource is examined with a view to finding what typical evaluations such statements make. Categorization of the content of these statements into certain attributes suggests three hypotheses as to the formal relationship between belief in conservation and advocacy of conservation regulations. Application of the method of difference leaves one of the hypotheses unfalsified within the defined universe of statements. According to this hypothesis, an expressed belief in conservation will imply the advocacy of conservation regulations when such belief is combined with a reference to group as well as private advantage and with an awareness of the likelihood of some form of regulation.

THE PROBLEM

Existing theories of social choice[1] allow no formal way of describing the operation of nonrational criteria of choice: ideals, traditions, and habit patterns. Such criteria, which prevent the complete ordering of a set of alternatives by an economizing agent, are generally treated as "complications," "limitations," or "constraints" upon rational choice. At the same time, strictly factual accounts of decision processes, so far as they take note of nonrational factors, commonly go no further than to demonstrate their effects by simple enumeration of examples. The result is a gap between theory and observation, which has impaired the explanatory power of the former as well as the systematic import of the latter. From this gap, too, there have arisen some anomalies in empirical research—data, that is, which find no generalized interpretation in theories of rational choice and which can only be given *ad hoc* explanations.

One such area of anomalous findings has been that of conservation behavior. A characteristic finding in several studies has been that of a professed belief on the part of resource users in the value of conservation, combined with a perfunctory application of conservation practices in their actual resource decisions.[2]

This finding might at first suggest that conservation values are peripheral to decision processes, that they are indeed mere "complications" or "limitations" upon rationality. Such an inference, however, would bypass the real problem, which is that of specifying the formal conditions under which different kinds of values (i.e., symbols which serve as criteria for selecting

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[1] Notably those of: Kenneth J. Arrow, *Social Choice and Individual Values* (New York: John Wiley & Sons, Inc., 1951); and John Von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior* (2nd ed.; Princeton, N. J.: Princeton University Press, 1947). See, too, the important collection of papers in R. M. Thrall *et al.* (eds.), *Decision Processes* (New York: John Wiley & Sons, Inc., 1954); and the critical essay by Kenneth O. May, "Intransitivity, Utility, and the Aggregation of Preference Patterns," *Econometrica*, XXII (1954), pp. 1-13.

[2] E.g., Edward O. Moe, *New York Farmers' Opinions on Agricultural Policies and Programs*, Cornell Extension Bull. 864 (Ithaca, N. Y., Nov., 1952), pp. 41 f.; John C. Frey, *Some Obstacles to Soil Erosion Control in Western Iowa*, Iowa AES Research Bull. 391 (Ames, Oct., 1952), pp. 951, 958, 981; C. R. Hoglund, *Soil Conservation in Michigan—Progress and Problems*, Michigan AES Special Bull. 394 (East Lansing, Jan., 1955), pp. 11-13.

from alternatives) figure in social choices.

DATA AND METHOD

This problem constitutes the point of departure for the present study. The research reported here involves a content analysis of a collection of verbal statements in which there has been a public profession of conservation values and in which there has been some appraisal of the means for achieving those values.

The verbal statements have been selected from a sample of newspapers and farm magazines published in the southern High Plains area of west Texas. This is a semiarid region which, owing to extensive development of its ground-water resources, has witnessed rapid agricultural expansion during the past fifteen years. Where, in 1940, there were approximately 2,180 irrigation wells watering about 250,000 acres of land, by 1955 there were 31,410 wells irrigating some 3,680,500 acres, mostly planted to cotton and grain sorghum.[3] Along with this increased dependence of the regional economy upon irrigation, there have been declines in the ground-water level which, between 1938 and 1953, exceeded twenty feet in the more heavily pumped districts.[4] With wells getting deeper and pumping costs rising, an intensified interest in ground-water conservation has been manifest in newspaper editorials, in press reports on farmers' and business groups' meetings, and in agricultural feature articles. At the same time, there has been a marked distrust of proposals which would entail regulatory controls on the use of ground water for irrigation purposes.

In compiling the verbal expressions which form the basic data of this study, the first step was to specify a universe of published materials. This was defined to include all newspapers and farm magazines published in the southern High Plains of Texas from the beginning of 1947 through the first five months of 1955. The sample consists of: all issues of one weekly newspaper, **A**, which appeared in the first four or five months of odd-numbered years (state legislative months and years) from 1947 to 1955, inclusive; all issues of a regional monthly farm journal, **B**, which appeared in the first four or five months of odd-numbered years between 1947 and 1953; all issues of two regional irrigation periodicals, **C** and **D**, which have appeared between their founding (1952 and 1954, respectively) and May, 1955; irregularly selected issues of two daily newspapers, **E** and **F**, the dates of which coincided with legislative developments pertinent to ground-water problems between 1947 and May, 1955; and some random issues of these and other regional newspapers, **G**, **H**, **I**, **J**, **K**.[5]

All those articles within the sampled issues which related to ground-water resources were examined for whatever proposals, evaluations, suggestions, and criticisms might have been made

[3] Data are for 19 counties. See tabulations in: J. R. Barnes *et al.*, *Geology and Ground Water in the Irrigated Region of the Southern High Plains in Texas*, Prog. Rpt. 7 (Austin, Tex.: Texas Board of Water Engineers, 1949), p. 30; and calculations from table in A. B. Slagle, "Irrigation on Texas Plains," *Southwestern Crop and Stock*, IX (July, 1955).

[4] Edward R. Leggat, *Summary of Ground-Water Development in the Southern High Plains, Texas*, Bull. 5402 (Austin, Tex.: Texas Board of Water Engineers, 1954), pp. 14 f.

[5] Names of the periodicals are: **A**, *Floyd County Hesperian;* **B**, *Southwestern Crop and Stock* (Lubbock, Tex.); **C**, *Texas Hi-Plains Irrigation Journal* (Lubbock, Tex.); **D**, *The Cross Section* (Lubbock, Tex.); **E**, *Lubbock Morning Avalanche, Lubbock Evening Journal*; **F**, *Plainview Evening Herald*; **G**, *Lockney Beacon*; **H**, *Tulia Herald*; **I**, *Muleshoe Journal*; **J**, *Lamesa Daily Reporter*; **K**, *Hale Center American.*

or quoted. Every pertinent verbal expression was transcribed and then broken down into clauses, each clause being a unit of assertion—e.g., "We must preserve and protect our underground water in this great area" (**C**, Mar., 1952). Each such clause was then categorized according to its content[6] into one component or the other of some dichotomous attribute. With a number of verbal expressions thus analyzed into clauses, and with several different attributes serving as classificatory categories for these clauses, it was possible to discern what covariations, if any, there were among the different kinds of clauses.[7] The observed covariations, in turn, served as data for a number of hypotheses about resource decision making. Finally, these hypotheses were subjected to an empirical test and each, in the manner of Mills' method of difference, was rejected *seriatim* except one—that one remaining an unfalsified hypothesis.[8]

VARIABLES

For the dichotomous classificatory categories, recourse was had to four attributes, or sets of variables. These attributes appear to be special cases of four of Parsons' "pattern variables."[9] As such, they correspond to a universally applicable set of categories for classifying social choices. In their specialized form as here employed, the four attributes may be characterized as follows:

1. *C*, "conservation": Expressions asserting the desirability of using ground-water resources in such a way as to assure their availability in the future. (Example: "Provide water for the next generation. Use it wisely. Find new means of conserving it." Quoted in **E**, Nov. 15, 1953.)

1′. *–C*, "nonconservation": Expressions asserting the desirability of making use of available ground water at the present time. (Example: "But they [High Plains people] don't want to hoard water merely for the sake of hoarding it. They want to use all they can without using too much. They want to irrigate every last acre of land for which there is plenty of water, but not one acre more." Quoted in **E**, Jan. 12, 1941.)

2. *R*, "regulation": Expressions asserting the desirability of prohibitory or prescriptive regulations concerning individuals' use of ground water. (Example: "It should be against the law

[6] Which would sometimes be contingent on that of adjacent clauses.

[7] The covariations in question were to have an all-or-none, rather than a correlational, character. Accordingly the categorization of clauses amounted to a non-frequency type of content analysis, in which the quantities (number of clauses) were simply 1 or 0. Berelson has proposed the designation "content assessment" for this type of analysis. [Bernard Berelson, *Content Analysis in Communication Research* (Glencoe, Ill.: The Free Press, 1952), pp. 119-121.] In the absence of any canons of sample design for non-frequency analysis, the foregoing descriptive account of the sample must suffice.

[8] On the method of difference, see Morris R. Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method* (New York: Harcourt, Brace & Co., 1934), pp. 256-259. An epistemological rationale for seeking "unfalsified" rather than "verified" hypotheses in science is developed in Karl Popper, *Logik der Forschung* (Wien: J. Springer, 1935), pp. 13-16.

[9] Respectively: (*1*) long-run interest vs. short-run interest; (*2*) collectivity orientation vs. self orientation; (*3*) quality vs. performance; (*4*) universalism vs. particularism. (See Talcott Parsons, "Some Comments on the State of the General Theory of Action," *American Sociological Review*, XVIII [1953], pp. 618-631, esp. p. 626, n. 13; Parsons, *The Social System* [Glencoe, Ill.: The Free Press, 1951], pp. 58-67.) Inasmuch as the pattern variables schema has been designed to comprise an exhaustive and universally applicable set of homologous categories for classifying social attitudes and objects, the attributes employed in this study may have more than an *ad hoc* character.

for anyone to leave an irrigation well unattended and allow water to be wasted in this way." Quoted in **E**, May 3, 1953.)

2′. *–R*, "nonregulation": Expressions asserting the desirability of individual autonomy in making decisions concerning the use of ground water. (Example: "I am not ready for anybody down at Austin to tell us how to use our water out here." Quoted in **G**, Jan. 10, 1941.)

3. *P*, "as probable as": Expressions asserting that there is some likelihood of impending regulations concerning the use of ground water. (Example: "If we don't prove to the state that we are conserving, we will likely have state instead of local control." Quoted in **H**, Dec. 9, 1954.)

3′. *–P*, "not as probable as": Expressions asserting that there is little likelihood of impending regulations concerning the use of ground water. (Example: "I think the threat of state control is being held over irrigation farmers without good reason." Quoted in **F**, Sept. 21, 1951.)

4. *K*, "comparable to": Expressions suggesting that ground-water practices be evaluated in terms of criteria of private advantage, thus allowing phenomenal comparability of different practices. (Example: "Using underground tile for irrigation purposes has cut the amount of water needed by one-third and the amount of labor required by two-thirds. . . . This is an experiment and a business proposition, and I can see now that it will really pay off." Quoted in **E**, Sept. 21, 1952.)

4′. *–K*, "not comparable to": Expressions suggesting that ground-water practices be evaluated in terms of standards of group as well as private advantage, thus rendering some pairs of different practices phenomenally incomparable (owing to the formal impossibility of making interpersonal comparisons of advantage). (Example: "Conservation Irrigation to us means the use of our irrigation water as an insurance, not as a means of getting rich quickly at the expense of our water and our posterity. Conservation Irrigation should mean the prolongment of our present economy as long as possible, eliminating to a bare minimum the mining of our valuable resource for the benefit of the few of us who are using it today." Quoted in **D**, July, 1954.)

In terms of this schema, a value such as conservation can be regarded as a preference ranking of the components of the attribute: "conservation," "nonconservation," or, more briefly, as a choice from the set $(C, -C)$. So, too, the value denoted by each of the other verbal expressions quoted above can be considered as a choice from some attribute $(X, -X)$. Each of the foregoing pairs of characterizations defines the full range of application of a particular attribute, so that the components X and $-X$ are each other's complements. Given, now, the existence of a conservation value, C, what covariation, if any, obtains between it and the choices that are made from one or more of the other attributes? Does a collection of verbal expressions concerning the conservation of ground-water resources exhibit any kind of semantic structure which is invariant from one verbal expression to another? Specifically, given a number of verbal expressions which denote the selection C rather than $-C$, can one with confidence predict that those expressions will likewise denote the choice R rather than $-R$, such that the hypothesis: *if C, then R* is sustained? Or, rather, does such a correspondence between the rankings of the components of different attributes obtain only if certain restrictions are imposed upon C? The

problem, stated in its simplest form, is one of formulating some hypotheses about the internal composition of verbal expressions concerning underground water conservation. It is to this problem that consideration may now be given.

FIRST HYPOTHESIS

The procedure which will be followed is that of proposing three successive hypotheses and attempting to refute each of them by adducing a deviant case. The object in this procedure will be to attain a formulation which is "falsifiable," in that it is definite and general,[10] yet one which remains unfalsified within the universe of verbal expressions defined for this study.

Consider, then, the class of all verbal expressions which denote the choice *C* ("conservation"). The hypothesis might first be advanced that any expression which asserts *C* will assert *R* ("regulation"). The supposition would be that "every social group invariably couples its cultural objectives with regulations, rooted in the mores or institutions, of allowable procedures for moving toward these objectives."[11] Regulations, whether permissive or prohibitory, define for the individual the conditions of his integration with some collectivity, such as the state. In the case of the southern High Plains there have been numerous legislative proposals made over a period of nearly twenty years, which would have permitted state proration of irrigation water, state licensing of wells, or the declaration of ground water to be public property. Such extensive transfer of rights to the state has been consistently opposed by spokesmen for High Plains farmers, and only in 1949 was a tempered local option groundwater conservation law passed by the state legislature. It is this statute which forms the basis of the present High Plains Underground Water Conservation District No. 1, and around which most discussion concerning regulatory measures has revolved.

To what extent, then, can the prediction: *if C, then R* be made of verbal expressions found in High Plains publications? Such a hypothesis is logically equivalent to the statement that there is no case of a verbal expression which asserts *C* and rejects *R*. As such it is readily falsified by the following cases of verbal expressions, each of which combines a *C* clause with a *–R* clause:

> This new association (a county water users' association) does not oppose the conservation of water. They are for that [*C*]. But they do oppose legislation and proration [*–R*]. (Quoted in **G**, Jan. 3, 1947.)

> I am for water conservation [*C*], but not of the type that can be done under the present law [*–R*]. This law is so garbled and attached to an old surface water law that is outmoded, that nobody, even the lawyers, can give you a clear opinion of it. (Quoted in **F**, Sept. 21, 1951.)

> We believe that there may be ways of conserving water supplies [*C*] without proration [*–R*]. (Quoted in **B**, Jan., 1947.)

To be sure, verbal expressions conforming to the hypothesis are numerous, such as the following:

> People of the High Plains of Texas know that the underground water table is falling. . . . This water is the life blood of the economy of the area. It is necessary, therefore, that measures be taken to bring about a balance between recharge of and withdrawal from the underground water reservoir [C]. . . .

[10] Cf. Popper, *op. cit.*, pp. 46, 67, 75. On the rationale for deviant case analysis, see Popper, pp. 13-16; and Patricia L. Kendall and Katherine M. Wolf, "The Two Purposes of Deviant Case Analysis," in Paul F. Lazarsfeld and Morris Rosenberg (eds.), *The Language of Social Research* (Glencoe, Ill.: The Free Press, 1955), pp. 167-170.

[11] Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill.: The Free Press, 1949), p. 126.

> The law under which an underground water district must be created in Texas makes possible management and conservation of underground water on the local level [*R*]. (Adv. in **E**, Sept. 23, 1951.)

Nevertheless, the discovery of a single case of *C* conjoined with $-R$ falsifies the hypothesis as a true generalization within the specified universe of verbal expressions. Apparently there are differences " . . . in the degree to which . . . controls are effectively integrated with the goals which stand high in the hierarchy of cultural values."[12]

SECOND HYPOTHESIS

Turning, then, to a second possible covariation among the components of the attributes used in this study, it might be supposed that personal awareness of the likelihood of some form of regulation, if combined with a belief in the value of conservation, would lead to the advocacy of regulation. That is to say, subjective certainty of the prospect of regulation might supposedly constrain preferences in accordance with a psychological "reality principle." In the southern High Plains, farmers have for years confronted the possibility of restrictive state legislation. The prospect has been variously conceived in such terms as:

> . . . unless we do something about it, we will be governed by a board of water engineers at Austin. (Quoted in **E**, Nov. 10, 1946.)

> And too, many farmers feel that state control of underground water is most imminent, therefore increasing the need for a [conservation] district of their own. It is felt that if a district is formed within the area state intervention would be out of the question. (Quoted in **J**, Jan. 13, 1955.)

> . . . people were told that if they didn't hide behind the ground-water law . . . that Texas would pass some kind of a worse law. They said even the surface laws would be revised. Well, they haven't been. (Quoted in **F**, Sept. 30, 1951.)

Given an objectively uncertain prospect, individuals have reacted by assigning various subjective probabilities to the two alternative outcomes. There are those who consider some form of regulation to be inevitable and, hence, to be accepted or compromised by seeking the least objectionable of the proposed regulatory measures, viz., a locally managed conservation program. For them, their own future resource decisions are envisioned as a matter of complying with prohibitions and prescriptions as to well drilling, pumping, and irrigating. Expressions denoting this choice may be represented by the binary relation symbol *P* and its "argument" $(R, -R)$. Thus $P(R, -R)$ may be read: "regulation is as probable as nonregulation." Then there are other individuals whose verbal expressions assert, quite to the contrary, that there is little prospect of regulation, and that resource decisions will continue to be of the broadly permissive type in which individual autonomy is the governing factor. Expressions of this sort may be represented thus: $-P(R, -R)$, to be read: "regulation is not as probable as nonregulation."[13]

Can, then, the prediction be sustained that every expression which asserts *C* and which also asserts $P(R, -R)$ will thereby assert *R*? In such a hypothesis, *C* is restricted by its conjunction with another term—the two of which thus constitute the logical antecedent for the consequent *R*. Refutation of the hypothesis involves finding a verbal expression which asserts *C*

[12] *Ibid.*, p. 128. Cf. Pitirim A. Sorokin, *Society, Culture and Personality* (New York: Harper & Bros., 1947), pp. 124, 126, 315-316.

[13] Cf. the non-numerical conception of subjective probability developed in G. L. S. Shackle, *Expectation in Economics* (Cambridge, England: Cambridge University Press, 1949), chap. 7.

and P $(R, -R)$ but which rejects R. Such expressions as the following seem to be of that form:

> If there is a danger of confiscation of any property by either the state or the federal government, then I say let's fight with every power at our command, but never sacrifice our property rights with a flimsy campaign of appeasement. [$P(R, -R)$.]
>
> We know that the underground water resources of this area are enormous. We know that this water is our most valuable asset. We also know that it is not inexhaustible. Practically every landowner in this 21-county area treasures the water as he treasures the land itself. [C.]
>
> The proponents of this contemplated High Plains Water Control district contend that legal controls are necessary to prevent the waste of this vital resource. But the fact is, the landowner himself does conserve and protect his property, both his water and his land. The waste that the proponents say needs correcting is practically nonexistent. [$-R$.] (Quoted in **E**, Sept. 26, 1951.)
>
> We are going to have to have some kind of water conservation or we on the Plains are ruined [C]. I grant the law is not perfect but it is something to start from and the bad points can be weeded out. Let's beat them to the draw [$P(R, -R)$] and not let the government get control of our water, our economy's life blood [$-R$]. (Quoted in **E**, Sept. 21, 1951.)

From these deviant cases, it appears that not all verbal expressions which approve of conservation and which indicate awareness of the prospect of regulation thereby acknowledge the desirability of such regulation.

THIRD HYPOTHESIS

There is, finally, a third hypothesis which may be advanced concerning invariant preference relations of the specified variables. This hypothesis postulates the existence of another clause in verbal expressions about resource management. The additional clause is one which suggests that ground-water practices be evaluated in terms of standards of group as well as private advantage. An equivalent clause would be one which advocated a particular *program* of resource management, insofar as the program involved a differential evaluation of various ground-water practices in terms of standards of group advantage. In the southern High Plains, the program which has been most effectively promoted is that of the High Plains Underground Water Conservation District No. 1. Since 1951, this public corporation has utilized, within its thirteen-county jurisdiction, both educational and regulatory methods for promoting water-conserving practices. Seeking at the outset a firm base of popular support, the district concentrated initially upon a program of conservation education through publicity, lectures, and farmers' meetings. Water-saving practices pertaining to the spacing of wells, the control of evaporation, and the application of water were contrasted with wasteful practices, and the superiority of the former, in terms of collective as well as private advantage, was shown. Three years after its establishment, impelled by declining water levels throughout the High Plains and by the omnipresent threat of state intervention in the region's water problems, the district invoked its statutory power to require permits for drilling irrigation wells.

Any resource program, being a differential evaluation of various resource practices, may be regarded as a partition of the whole set of practices into two disjunct subsets: the specifically prescribed and the nonprescribed.[14] Verbal expressions which advocate such a program may invoke standards of private advantage or standards of group advantage. In the former case, the partition of resource practices into

[14] In the sense of unspecified, hence inclusive of allowable or condoned as well as prohibited.

the prescribed and the nonprescribed subsets is rationalized in terms of the relative magnitudes of some one property (or commensurable properties), such as profitability, capital gain, or crop yield. Here there is a subjective or phenomenal comparability, from the resource user's point of view, of every pair of alternative resource practices, irrespective of their belonging to the prescribed or the nonprescribed subsets; any two practices can be ranked to form a complete ordering with respect, say, to profitability.

On the other hand, verbal expressions which rationalize a resource program in terms of group as well as private advantage perforce render some pairs of prescribed and nonprescribed practices incomparable. There is no way of comparing the subjective advantage of different individuals, or of groups vs. individuals. The partition, therefore, must find its verbal justification in some incommensurable properties—e.g., sentiment *as well as* profitability, organizational commitment *as well as* crop yield, etc. A justification of this kind, by requiring choice according to differing criteria, allows no ranking of practices on a single ordinal scale but, like the classical distinction between the sacred and the profane, creates a division " . . . into two classes which embrace all that exists, but which radically exclude each other."[15]

This relation of incomparability, which finds no systematic formulation in theories of social choice,[16] may be represented by the binary relation symbol $-K$, to be read: "not comparable to." The symbol s will denote any element in the subset S of specifically prescribed practices; $-s$ denotes any element in the subset $-S$ of nonprescribed practices. Further, the equivalence of S with R and $-S$ with $-R$ will be postulated, on the supposition that where a set of regulatory controls is employed it will sanction the prescribed rather than the nonprescribed practices. The general proposition $-K\ (s, -s)$ may be read: "the prescribed practice s is not comparable to the nonprescribed practice $-s$."

In terms of the universe of published materials defined for this study, the hypothesis may be advanced that any verbal expression which, on grounds of group welfare, suggests a commitment of resource users to a definite program of resource management, and which asserts the desirability of conservation and the likelihood of some form of regulation, will assert the desirability of regulation. The hypothesis affirms that every verbal expression which asserts the conjunction $C \cdot P(R, -R) \cdot -K(s, -s)$ will assert R. Illustrative of the hypothesis is the following expression:

> The declining level of underground water on the high plains brings us face to face with the fact that something must be done to conserve the water [*C*] if this country is to continue to be the highly productive area it has been. The High Plains Underground Water Conservation Association is trying to take the lead in that matter [*R*]. We are glad that the plains area of Floyd County is a member of that Association and we are sorry that some parts of the plains, notably Hale County, has so far refused to come into it. Of course the success of the organization's efforts will be determined to some extent on cooperation from all the shallowater [*sic*] area. We don't understand why these areas refuse to join the organization. Perhaps they have a good and sufficient reason that hasn't been explained to us. Or perhaps it is a selfish attitude [$-K(s, -s)$] that says, "We will pump water out of the ground as fast and as much as we please and let the future generations take care of themselves." That sort of attitude is one that is most likely to bring on state control of underground water and then those

[15] Emile Durkheim, *The Elementary Forms of the Religious Life* (Glencoe, Ill.: The Free Press, 1947), p. 40.

[16] *Cf.* Arrow's postulate that "any two alternatives are comparable" (*op. cit.*, p. 13), and Von Neumann and Morgenstern's assumption of the completeness of a system of preferences (*op. cit.*, p. 26).

> boys who get so upset over the prospect of local control will really have something to get upset about. [$P(R, -R)$.] (**G**, quoted in **H**, Jan. 13, 1955.)

Refutation of the hypothesis would entail finding a verbal expression in which the antecedent conjunction of terms was asserted but the consequent, R, was rejected. No such expressions were yielded by the sample of published materials selected for this study.

Of course, failure to falsify the hypothesis in no sense amounts to its confirmation; however, its credibility within the defined universe of published materials becomes somewhat the greater. Similarly, failure to falsify the hypothesis is no warrant for inferring a causal connection between the antecedent clauses and the consequent clause of a verbal expression. The method of difference permits only an elimination of supposed but fallacious causes, not the demonstration of actual causal relationship. Hence, the hypothesis can be regarded only as having more approximately identified a sufficient (though not necessary and sufficient) condition for R than did the two falsified hypotheses. Finally, the empirical generality of the hypothesis can be assessed only through comparative research, in which a more inclusive universe of verbal expressions has been defined.

THIRD HYPOTHESIS TRANSFORMED

With these reservations in mind, it may be profitable to press the inquiry one step further: By means of logical rules of inference the hypothesis

$$C \cdot P(R, -R) \cdot \sim K(s, -s) \supset R$$

can be transformed into

$$\sim R \supset \sim C \vee \sim P(R, -R) \vee K(s, -s),$$

both understood as universally quantified statements. By reference to the four attributes used in this study, the transformed hypothesis may be read: any verbal expression which asserts the desirability of individual autonomy in the use of ground water will assert the desirability of making use of available ground water at the present time, and/or will assert that there is little likelihood of impending regulations concerning ground water, and/or will suggest that ground-water practices be evaluated in terms of standards of private advantage. Refutation of this hypothesis, of course, would constitute refutation of its equivalent (1), though this was not afforded by any of the verbal expressions within the study sample.

Proposition (2), though logically equivalent to (1), orients research attention in a somewhat different direction from that pursued in the present study. By transforming $-K$ into K, a promising avenue is suggested for comparative research on the conservation of resources. As Ciriacy-Wantrup has observed, the " . . . special case exists when social mores and institutions favor a calculative, antitraditional and materialistic (if not outright pecuniary) approach to conservation decisions."[17] Such an approach, in which a set of alternative resource practices can be completely ordered, with the practices being compared as lineal quantities in respect to private subjective advantage, is characteristic of High Plains agriculture.

Possibly it is the ubiquity of this calculative attitude, not only in the southern High Plains, but throughout the Western world, which has given these lands their "plundered" character. To be sure, only comparative research with cross-cultural design can determine whether or not the attribute $(K, -K)$ is indeed the *differentium specificum* of resource-depleting vs. re-

[17] S. V. Ciriacy-Wantrup, *Resource Conservation* (Berkeley and Los Angeles: University of California Press, 1952), p. 90.

source-sustaining types of exploitation. Present results agree only with the hypothesis that conservation values, unless combined with an appeal to standards of group advantage, are not invariably associated with an advocacy of resource regulation.

Together the four variables in (1) comprise a hypothesis which states some formal conditions under which conservation values figure in resource decision making. According to this hypothesis, conservation values are neither determinative of conservation choices, nor are they merely incidental to resource decision processes. Rather they represent symbols in terms of which, under certain formal conditions, resource users make decisions that will implement conservation practices.

This way of formulating the problem puts both nonrational and rational criteria of choice on the same analytical level; each may be regarded as a different selection of components from the three attributes which form the *if* side of the *if—then* hypothesis (1). As a result, ideals, traditions, and habit patterns can be treated, along with economic considerations, in one and the same theoretical framework of decision processes.

MEMBERSHIP TRENDS IN A RURAL CATHOLIC PARISH

by C. J. Nuesse†

ABSTRACT

A vertical study of family membership units listed in annual financial reports of a midwestern rural Catholic parish reveals (1) membership trends in a generation of parish history and (2) aspects of the role of the family as the participation unit. Analysis indicates a basic stability of member families associated with the rural environment, in spite of a fair amount of horizontal mobility and changes in occupational structure. Stability of member units, formation of new units by intraparochial marriages —nearly a fifth of which typically include a partner converted to the Catholic faith—and a slight advantage in religious mobility within the community have been principal factors in the steady growth of the parish at a rate surpassing that of the surrounding township and county.

INTRODUCTION

In their review of rural-urban differentials in territorial mobility, undertaken three decades ago, Sorokin and Zimmerman characterized the typical rural community as "a pond with tiny streams of influx and outflux, and with the particles relatively stagnant and immobile."[1] The analogy may no longer be entirely appropriate, in view of accelerating social trends, but the significance of stability of occupation and residence for rural social organization continues to receive the attention of sociologists.[2] In one study, for example, the problem is stated as follows:

> The general stability of farms is probably related to social organization, both as cause and effect. Group integration as represented by the rural churches, for example, functions in the stability of residence, and this in turn gives cohesion to the religious society. Thus, the high value assigned to land, and the community concept of the religious institution, combine to resist social attrition and to maintain the cherished neighborhood relationships.[3]

The present paper illustrates effects of this reciprocal relation between community stability and associational composition through analysis of data collected several years ago in a rural Catholic parish of the northern Middle West. It is first of all a report of membership trends in a generation of parish history, but, by the use of families rather than individuals as enumeration units, it indicates as well certain aspects of the role of the family as the participation unit in the parish.

Continuity of family membership, natural increase and death, in-migration and out-migration, and conversions and defections are expected sources of parochial growth and decline. Especially in a rural area, these phenomena can be observed most appropriately in relation to families of origin. Rural leaders, sometimes as-

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[1] Pitirim Sorokin and Carle C. Zimmerman, *Principles of Rural-Urban Sociology* (New York: Henry Holt & Co., 1929), p. 28.

[2] Cf. *Rural Life Studies* (Nos. 1-6; Washington, D. C.: U. S. Department of Agriculture, Bureau of Agricultural Economics, 1941-43). Under the title "Culture of a Contemporary Rural Community," studies of six communities selected to represent points on a continuum from high stability to high instability are reported. A subsequent series, "Rural Social Organization," undertaken cooperatively by the Bureau of Agricultural Economics and agricultural experiment stations in various states, presents data on counties representing major types of farming areas.

[3] A. H. Anderson and Randall C. Hill, *Rural Communities and Organizations: A Study of Group Life in Ellis County, Kansas*, Kansas AES Circ. 143 (Manhattan, 1948), p. 27.

serting that "the farm is the native habitat of the family," have noted that "even religion [is] more of a family affair in the country than in the city."[4] Since parish membership has been studied horizontally in most instances, on the basis of data from census enumerations,[5] most research has emphasized individuals as participation units. There has been at least one suggestion for a "family tree census,"[6] however; and, had it been possible to enumerate individuals as accurately as families for the past generation in the parish investigated, the inquiry presented here might have taken this form. It is instead largely a vertical study of family membership units.

The parish studied was organized with a membership of about sixty families, in 1884, as a mission of a parish in the county seat, from which the present church is about six miles distant. It has had a resident pastor since 1890. The county seat, the only population aggregate over village size in the county, is a trade center with shipyards and small industries for which a population of 7,054 was reported in the census of 1950. The rural parish is within its immediate service area, and the church, parochial school, rectory, convent, and cemetery are located in a hamlet subcenter with less than one hundred persons. Service agencies adjacent to the parish buildings include at present a grocery, dress shop, feed store and mill, garage, tavern and dance hall, and public consolidated elementary and secondary school. Three other hamlets—two based on trade and one on fishing and resorts—lie within the parish boundaries. Since the locality is widely known for its orchards and recreational opportunities, numerous visitors use the church during the summer months. These are summer residents, tourists, and migratory workers; but, except for a few of the former whose annual return has made them familiar to parishioners, they have had little contact with the parish group. The ethnic composition of the parish, originally dominantly German and still discernibly so, has for some years ceased to be of practical significance; in addition to the several Irish families numbered among the founders, others of Belgian, Bohemian, English, French, Norwegian, and Polish descent have moved into the area, intermarried, and attained status in the community.

If typicality cannot be claimed for this parish and its community, due to insufficient comparative data, the absence of clearly atypical characteristics can be noted. The parish is not within a cultural island nor isolated from contacts with urban and industrial centers. The county in which it is located ranked in the second highest fifth of all counties of the United States in farm-operator family level-of-living in

[4] National Catholic Rural Life Conference, *Manifesto on Rural Life* (Milwaukee, Wis.: Bruce Publishing Co., 1939), pp. 3, 5. See also, Emerson Hynes, "The Parish in the Rural Community," in C. J. Nuesse and Thomas J. Harte (eds.), *The Sociology of the Parish: An Introductory Symposium* (Milwaukee, Wis.: Bruce Publishing Co., 1951), chap. iv.

[5] E.g., see Joseph H. Fichter, *Southern Parish* (Chicago: University of Chicago Press, 1951), I; George A. Kelly, *Catholics and the Practice of the Faith: A Census Study of the Diocese of St. Augustine* (Washington, D. C.: The Catholic University of America Press, 1946); or Gerald J. Schnepp, *Leakage from a Catholic Parish* (Washington, D. C.: The Catholic University of America Press, 1942). A general treatment of aims and techniques of enumeration may be found in George A. Kelly, "The Parish Census," in Nuesse and Harte, *op. cit.*, chap. ix.

[6] Francis P. Leipzig, *Family Tree Census* (Eugene, Ore.: no publisher or date indicated) emphasizes the pastoral utility of a census embracing several generations of family history.

1950.[7] There is a certain amount of local residential and occupational mobility and out-migration of young people who seek employment in larger cities of the state. The population of the community is not only ethnically but also religiously heterogeneous; Catholics are most numerous, followed by Lutherans and smaller numbers of Methodists, Moravians, and others.

IDENTIFICATION OF MEMBERS

Membership in a Catholic parish is defined legally by the Canon Law of the Universal Church, and by statutes and regulations of the diocese in which it is located, though sometimes local custom introduces unofficial and perhaps even legally invalid variations. The Code of Canon Law requires each diocese to be divided into "distinct territorial parts" having their determined populations, designated parochial churches, and proper pastors.[8] Apart, therefore, from what are called personal and national parishes and occasional locally sanctioned exceptions, the fact of residence within parochial boundaries determines parish membership for Catholics.[9]

Members have obligations in both spiritual and temporal matters. The spiritual matters are primary. Most prominent among the material obligations and useful in the present instance as an accepted criterion of standing is support of the parish. Published regulations of the diocese of the parish studied have been explicit on this point, at least in the past. Pastors, for example, were at one time advised to post and explain such rules as the following: "Only those are considered full members of the parish and entitled to the services of the priest, who comply with all their duties toward the Church"; further, "Besides families properly enrolled on the Register of the Parish, only such grown persons will be considered members who fulfill their religious duties, and who, if they work for their own account, rent a seat in the church or contribute the required membership fee."[10] The poor, the wives and children of delinquent heads of households, and others who might be unable to contribute through no fault of their own, were specifically exempt from these provisions.

The duty to pay "pew rent" (later "dues") was systematically defined in this parish from the beginning through a system of classifications based upon means; in 1946 the parishioners in annual meeting substituted a system of equal assessments for family units.[11] It is unnecessary for present purposes to enter into details concerning this system. A rule applied over many years excluded from the rolls those who failed to make payments on their assessments for three consecutive years. Annual financial reports, issued irregularly at first, have been published continuously since 1912. These represent the nearest approximation to official membership lists and have always listed the names of all heads of families or households (or of Catholic spouses in mixed marriages) recog-

[7] Margaret Jarman Hagood, *Farm-Operator Family Level-of-Living Indexes for Counties of the United States, 1930, 1940, 1945, and 1950* (Washington, D. C.: U. S. Department of Agriculture, Bureau of Agricultural Economics, 1952).

[8] Canon 216, no. 4.

[9] A social advantage of the territorial principle of organization has been noted by Douglas Ensminger, among others: "The Roman Catholic Church has demonstrated that social differentiation is unnecessary, however, for where the Catholic Church exists, it serves all status groups within a given geographic area." (In Carl C. Taylor *et al.*, *Rural Life in the United States* [New York: Alfred A. Knopf, 1949], p. 122.)

[10] Source withheld.

[11] See a previous study by the present author, "The Relation of Financial Assessment to Status in a Rural Parish," *The American Catholic Sociological Review*, IX (1948), pp. 26-38.

nized as members. In effect, membership is maintained in the name of the head for the entire family. Single persons, including at times all unmarried wage earners in the parish, have also been listed, but with less regularity.

Acceptance of the parochial criteria of membership, through use of the published financial reports for identification of members, excludes from the study those long-lapsed Catholics who would be revealed by a parish census (although these are now known as such within the community), others who while faithful to their religious obligations in general may have escaped being listed as members, and former members of the parish regarded as excessively delinquent in the payment of financial assessments. Only brief attention need be given to the problem of enumeration, however. Family units evading listing in annual reports have never been significant in number, except possibly in cases of inmigrant temporary residents during World War II. Their omission can only bias conservatively any conclusions which may be drawn about membership growth. While families defecting before 1912 or before migration into the parish are also excluded by the definition of membership and the source of the data, members lapsing either in faith or in financial contributions after 1912 are included in the investigation since their names were on public record previous to their lapses. It may be noted, incidentally, that membership units have been identified with relative ease because of the author's familiarity with the parish and the ease of securing reliable information through concealed interviews with members and former lay officials.

COMPOSITION OF MEMBERSHIP

Analysis has involved review of membership units listed in the annual reports from 1912 to 1949. The number of units in each of the following categories was determined for each year: (*a*) unbroken families, including in a few cases a surviving aged relative, (*b*) family units headed by Catholic spouses in mixed marriages, (*c*) family units in which heads had lapsed in religious observance, (*d*) broken families headed by widowed or—rarely—separated persons, (*e*) unmarried or widowed heads of households, (*f*) single persons. This last category has been omitted from tabulations, since it consists of self-supporting sons or daughters of member families already listed. Temporary or summer residents listed occasionally have also been excluded.

It may be noted at the outset that the trend of parish growth has been steady — from 103 membership units listed at the beginning of 1912 to 187 listed at the beginning of 1949—and that the distribution of units among the several categories outlined has remained substantially unchanged during this entire period. In 1949, 141 family units (75.4 per cent), four of them including an aged parent, were unbroken and reputed to be faithful in their religious duties; 22 (11.8 per cent) were headed by Catholic spouses married to non-Catholics; 3 (1.6 per cent) had heads who had publicly lapsed from Catholic practice while their wives and children remained faithful; 10 (5.3 per cent) had been broken by the death of one of the spouses; and 11 (5.9 per cent) consisted of unmarried or widowed persons. A check of distributions for previous years shows a constant proportion in the first category; a return in 1949 to the original proportion in mixed marriages after steady absolute and relative decline in this category from 1920 to 1940; a numerically constant, and hence relatively declining, number of lapsed heads of families; a reduction in the proportion of broken families after

TABLE 1. COMPARATIVE GROWTH OF PARISH AND LOCAL GOVERNMENTAL DIVISIONS

Year	Population of county	Population of town	Member units of parish
1950	20,870	1,791	.....
1949	.....	.....	187
1940	19,095	1,588	153
1930	18,182	1,562	113
1920	19,073	1,613	119
1912	.....	.....	103
1910	18,711	1,578	.....

a steady increase from 1912 to the early forties; and relative constancy in the proportion of unmarried and widowed members. The evident stability in the composition of parish membership hardly requires comment.

Measured in terms of the increase of its membership units, in comparison with enumerations of individuals by the United States Census during the same period, the parish seems to have grown at a more rapid rate than either the rural town—within which most of the parishioners live—or the entire county. Table 1 provides the relevant data. It is apparent that while the population of the county increased 11.5 per cent and that of the town 13.5 per cent between 1910 and 1950, the number of member units in the parish increased 81.5 per cent during virtually the same period. Between 1910 and 1940, the populations of town and county were maintained near stability, but membership units of the parish increased 48.4 per cent in number. Even during the 1940's, when there was considerable mobility with some net in-migration into the town, the growth rate of the parish continued to exceed that of the surrounding governmental units.

Table 2 indicates that a considerable proportion of the growth can be attributed to the natural increase of the parochial population. Thus, 52.9 per cent of the membership units in 1949 represented families already resident

TABLE 2. DISTRIBUTION OF MEMBERSHIP UNITS BY PERIOD OF MEMBERSHIP IN PARISH, 1949

Categories based on duration of membership	Number	Per cent
Resident in parish since 1912	24	12.8
Descendants of those listed in 1912	75	40.1
First listed, 1913-24, inclusive	12	6.4
Descendants of those first listed, 1913-24	22	11.9
First listed, 1925-39, inclusive	16	8.5
Descendants of those first listed, 1925-39	10	5.3
First listed, 1940-49	28	15.0
Total	187	100.0

TABLE 3. DISTRIBUTION OF MEMBERSHIP UNITS BY NUMBER OF GENERATIONS OF MEMBERSHIP IN THE PARISH, 1949

Generations in parish	Number	Per cent
Four	2	1.0
Three	35	18.7
Two	85	45.5
One	65	34.8
Total	187	100.0

in the parish in 1912, or their descendants. Only 28.8 per cent of the units in 1949 had been in the parish less than twenty-five years, 15.0 per cent less than ten years. (The latter category includes wartime in-migrants, of course.) This stability is shown as well in Table 3, which reveals that approximately two-thirds of the units in 1949 had been represented on the parish rolls for more than one generation in their respective family histories. Comparison of the reports of 1912 and 1949 discloses that, of the 103 membership units in the parish in 1912, 60 (58.3 per cent) were represented by the original units or their descendants in 1949.

Examination of changes in membership listings year by year reveals fur-

TABLE 4. PERCENTAGE DISTRIBUTION OF HEADS OF MEMBERSHIP UNITS, BY OCCUPATION, 1912 AND 1949

Occupation	1912	1949
Farming:	*86.4*	*71.6*
Full-time	81.6	51.9
Part-time	.....	6.0
Farm labor	.....	4.4
Retired	4.8	9.3
Nonfarming:	*13.6*	*28.4*
Business-professional	1.0	8.7
Clerical workers	.....	1.6
Fishing	6.8	2.8
Labor	2.9	12.0
Unemployed, retired	2.9	3.3

TABLE 5. DISTRIBUTION OF MEMBERSHIP UNITS BY RELIGIOUS AFFILIATIONS OF MARITAL PARTNERS, 1949
(unbroken marriages only)

Religious affiliations	Number	Per cent
Both parties reared Catholics	106	63.8
One party converted at marriage	27	16.3
One party converted after marriage	5	3.0
One party non-Catholic	22	13.3
Data unavailable	6	3.6
Total	166	100.0

ther how much the growth of the parish has been associated with the stability of its member families. Each year, from one to eight (3.5 on the average) new membership units have been formed through the marriages of young parishioners who remain within the parish; over the years, nearly 18 per cent of these marriages have involved the prior conversion of one of the partners to the Catholic faith. (Note that these statistics do not represent the total number of marriages in the parish.) On the other hand, 1 unit each year has been lost through death, while 1.7 units have suffered the death of their heads. From 1 to 11 (in one year, 18) units have migrated out of the parish annually, about five per year on the average; these have been largely compensated for by annual, new in-migration of 3.5 units on the average and the return after out-migration of 1.2 units per year. An average of 1.7 units have lapsed from membership each year and 1.6 units have returned after lapses. Continuance of parental homes and settlement within the parish of some of its newly married sons and daughters are thus revealed as the crucial factors in parish growth. The majority of young parishioners, however, necessarily seek their opportunities elsewhere.

As the statistics suggest, the stability and growth of the parish have been maintained in spite of a fair amount of mobility. This point is emphasized further by comparing the occupations of heads of membership units in 1912 and 1949 (Table 4). While the number of full-time farmers holding membership in the parish increased from 84 to 95 in the span of years studied, the increase of part-time farmers and farm laborers and especially of nonfarm workers was conspicuous in parish growth. It seems evident, too, that changes in occupational distribution involved natives of the parish to an appreciable extent, even if the volume of migration is taken into account. These changes suggest, incidentally, the role of occupational mobility in community adjustment to technological development.

CONVERSIONS, LAPSES, AND DEFECTIONS

Allusion has been made above to conversions at marriage as a source of parish growth, since about 18 per cent of new membership units formed by marriage within the parish were found to include a spouse converted to the Catholic faith. Table 5 shows that this proportion was still characteristic of parish membership in 1949. Of the 27 members at this time who were converts at marriage, 18 were wives. The expected predominance of female part-

ners in mixed marriages was also found;[12] in only 4 of 22 cases was the husband Catholic. It is of interest to note that in 5 instances among the 1949 members marriages had first been attempted outside the Church and later validated; of these, 1 involved two parties reared as Catholics, 1 was a mixed marriage, and 3 had resulted in conversion of the non-Catholic partner.

Mixed marriages attempted outside the Church and involving the defection of the Catholic partner are not included in the data of this study. Only census techniques could reveal statistically the net effect of such marriages upon the parish at a given time. A few approximate measures may be used, however. In 17 of the 103 membership units on the parish rolls in 1912, for example, one or more children eventually ceased the practice of the faith after marriage outside the Church. In 1949, defections of this kind had already occurred in at least 16 of all 187 units listed.

Among a total of 401 membership units listed at some time between 1912 and 1949, ecclesiastically valid mixed marriages were identified in 56 cases (14.0 per cent). In 2 of these, the Catholic partner later defected; in 6 units (4 involving husbands), children were for various reasons not reared as Catholics; but in at least 12 cases the non-Catholic partners (7 husbands, 5 wives) later entered the Church. Among 43 units (10.7 per cent) in which one of the parties was identified as a convert at the time of marriage, apparently there were only 2 in which the convert did not remain faithful; but in 7 units, to date, one or more children have defected. In the nature of the case, and because many of the units included have migrated out of the parish, statistics on these points cannot be completely reliable, but they appear nevertheless to be consistent with other trends discovered in this study and with local estimates. The parish appears to have a slight advantage in the religious mobility which is indicated.

Lapses of membership in the parish, as distinct from lapses in observance of religious duties or defection from the Church, have been frequent enough. The pattern of the parish is revealed in an examination of units resident within its boundaries for ten years or more, numbering 212 of the total of 401. Lapses of membership occurred in at least 48 (22.6 per cent) of these, due usually to nonpayment of dues, disputes with pastors, and lapses in religious observance. The latter factor was involved in 20 of these cases (9.4 per cent of the 212 units). Lapses because of irregularity in financial contributions or intraparochial disputes were always temporary, but one or both of these factors was sometimes linked with lapses from the practice of religion. In most cases these were also temporary, even if prolonged, but they were productive of defections of children in no less than ten instances. The practice of religion, like social participation in general, is to a very large extent a family trait.[13]

CONCLUSION

In view of the lack of studies of rural Catholic parishes—due in part to the relatively small number of such parishes—this brief summary of trends in one parish is useful for its illustrative data on membership profiles, maintenance of membership roles, sources of growth, and general standards of religious ob-

[12] Cf. Fichter, *op. cit.*, p. 107, who reported 78 Catholic husbands and 213 Catholic wives in 291 mixed marriages enumerated; or Kelly, *op. cit.*, p. 55, who found 68 per cent of the Catholic partners in 4,680 mixed marriages in the Diocese of St. Augustine to be wives.

[13] Cf. W. A. Anderson, "The Family and Individual Social Participation," *American Sociological Review*, VIII:4 (Aug., 1943), pp. 420-424.

servance. The techniques employed indicate potential uses of published parochial records which must be readily available in many localities. Accumulation of data through similar studies would facilitate analysis of numerous problems in the sociology of communities and the sociology of religion.

The parish studied, for example, seems to offer an exception to a recent generalization that "The effectiveness of any family unit association in maintaining a large membership probably depends upon *diversity of appeal*. . . ."[14] Membership has grown without notable increase in the diversity of parochial activities at the same time that competing associations and interests and the means for their enjoyment have multiplied. Undoubtedly this is associated partly with the distinctive nature and obligation of religious worship in Catholic life, so that Catholic parishes have less of the character of voluntary associations than those of other denominations. Partly, also, the rural setting of the parish in question enables it to serve broad traditional functions of sociability which have been lost to a much greater degree in urban communities.

This leads to a final consideration of the relation between community and associational orientations in the local value structure. The data indicate the value, derived in the first place from religious belief, which is attached to the maintenance of the parish and the support which this value receives from stability of residence and occupation in the community. Community-oriented values, such as those involved in prestige classes, have visible effects within the parish, too.[15] Unfortunately, the scope of the data is too limited to show directly how the parochial association functions in turn in maintaining stability of residence and occupation and integration of the community.

[14] Leonard Broom and Philip Selznick, *Sociology* (Evanston, Ill.: Row, Peterson & Co., 1955), p. 399. The authors cite the church as such an association, "attracting support from many persons who first join the recreational church clubs for married couples or who send their children to Sunday school."

[15] Cf. Nuesse, *op. cit.*

THE RELATIONSHIP OF TRADE-CENTER POPULATION CHANGE TO DISTANCE FROM LARGER CENTERS IN AN AGRICULTURAL AREA

by Edward Hassinger†

ABSTRACT

The relationship between 1940-1950 population change of small trade centers in southern Minnesota and the distance of the smaller centers from larger ones was examined by means of a spatial construct which located small centers in zones according to distance from centers of 2,000 population or larger. It was found that there was a systematic positive relationship between growth and distance from centers of 2,000 or larger, and that the size of the larger center affected the growth pattern of surrounding centers. A kind of suburbanization appeared to take place around centers of 5,000 or larger, which was not so clearly indicated for centers with populations between 2,000 and 5,000. When size of trade centers was controlled, distance from larger centers remained a factor in the growth pattern.

Isolated farmsteads and trade centers of various sizes are almost universal in agricultural areas of the United States. This is not the case throughout most areas of the world, where tillers of the land are more likely to live in agricultural villages. Whatever the reasons for the pattern of settlement in this country—and they have been rather carefully examined[1]—the agricultural trade center is an important human aggregate and a firmly established cultural form.

Growth and decline of trade centers has been considered by many sociologists.[2] As the focus of communication, commerce, professional service, and social activity, and as a place of population concentration, the trade center is an important element in rural social organization. Systematic changes in the population of such centers have consequence for, and are indicative of, general changes in rural society. Changes in trade-center population are, of course, of great concern to those who live and make their living in these places. The concern of businessmen is obvious; but those planning for tomorrow's schools, hospitals, and utilities also must be alert to population shifts. The growth and decline of trade centers also has important consequences for people living on farms, and in some

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[1] Lowry Nelson, *The Mormon Village* (Salt Lake City: University of Utah Press, 1952), pp. 3-22; T. Lynn Smith, *The Sociology of Rural Life* (New York: Harper & Bros., 1947), pp. 241-244.

[2] E.g., Paul H. Vogt, *Introduction to Rural Sociology* (New York: D. Appleton & Co., 1918), pp. 356-364; John M. Gillette, *Rural Sociology* (New York: Macmillan Co., 1923), pp. 459-484; C. Luther Fry, *American Villagers* (New York: George H. Doran Co., 1926); Carle C. Zimmerman, *Farm Trade Centers in Minnesota, 1905-1929*, Minnesota AES Bull. 269 (St. Paul, 1930); Charles E. Lively, *Growth and Decline of Farm Trade Centers in Minnesota, 1905-1930*, Minnesota AES Bull. 287 (St. Paul, 1932); Harold C. Hoffsommer, *Relation of Cities and Larger Villages to Changes in Rural Trade and Social Areas of Wayne County, New York*, Cornell University AES Bull. 582 (Ithaca, 1934); T. Lynn Smith, *Farm Trade Centers in Louisiana, 1901 to 1931*, Louisiana AES Bull. 234 (Baton Rouge, 1933); Paul H. Landis, *The Growth and Decline of South Dakota Trade Centers, 1901-1933*, South Dakota AES Bull. 279 (Brookings, 1933); Paul H. Landis, *Washington Farm Trade Centers, 1900-1935*, Washington AES Bull. 360 (Pullman, 1938); Edmund deS. Brunner and T. Lynn Smith, "Village Growth and Decline, 1930-40," *Rural Sociology*, IX:2 (June, 1944), pp. 103-115; Edmund deS. Brunner, "Village Growth, 1940-1950," *Rural Sociology*, XVI:2 (June, 1951), pp. 111-118; Lowry Nelson and Ernst T. Jacobson, "Recent Changes in Farm Trade Centers in Minnesota," *Rural Sociology*, VI:2 (June, 1941), pp. 99-106.

ways reflects the changing relationship between farm and town.

Only in an ideal sense can individual population centers be conceived of as isolated and, with their hinterlands, self-sufficient. Even in the early days of settlement in the Midwest, isolation, though greater than at the present, was far from complete.[3] But when transportation is good, a large variety of goods and services is demanded, and local loyalties are decreasing, trade centers find it more difficult to retain exclusive trade areas. Places established under different conditions are not all equally in harmony with changes taking place. With the breakdown of isolation, competition among centers may be expected. In such a situation, it seems reasonable to suppose that the distance of smaller centers from larger ones may be related to the growth of the smaller centers. To determine whether such a relationship exists was the purpose of the present study.

The study area consisted of 43 counties in southern Minnesota. All the 351 incorporated places within the area were included in the analysis. Because of the characteristics of the study area, these places were judged to be agricultural trade centers.[4]

RELATIONSHIP BETWEEN GROWTH AND DISTANCE FROM LARGER CENTERS

The hypothesis was that smaller places in proximity to larger ones are at a disadvantage in maintaining population growth. For purposes of the study, incorporated places of 2,000 or more population, in 1940, were considered "large," and those under 2,000 were classed as "small." Concentric circles were drawn around the large centers, at intervals of 7, 10, and 15 miles from the center. The area inside the first circle around each center (7-mile radius) was designated Zone I; the area between the first and second circles (7 to 10 miles), Zone II; the area between the second and third circles (10 to 15 miles), Zone III; and the area outside the third circle (15 or more miles from a given center and not closer to another), Zone IV. The smaller places (under 2,000 population) were then classified according to the zone in which they were located. The concentric-zone construct was regarded as a device to categorize systematically the distance of smaller centers from larger centers, and, by thus simplifying the distance factor, to make a test possible.

This construct involves the assumption that movement to the larger center is equally unobstructed physically (by lakes, rivers, hills, etc.) for all places within its territory, and that the only physical variable is radial distance between the smaller and larger centers. Maps of the area make it apparent that this is not always the case. However, good roads tend to connect towns, and the larger centers are generally a focus for highways and the better secondary roads of the area. The road system allows rather free travel in all directions. Of the few major physical barriers, perhaps the most prominent is the Minnesota River, not a difficult river to bridge. Lakes may be responsible for some indirect routes, but they are not numerous in the southern part of the state.

The smaller places that were within 10 miles of a large center (Zones I, II) were compared with those more dis-

[3] Lewis Atherton, *Main Street on the Middle Border* (Bloomington: Indiana University Press, 1954), p. 52.

[4] For details on selection and characteristics of the area and the rationale for considering places within the area agricultural trade centers, see Edward Hassinger, "Factors Associated with Population Changes in Agricultural Trade Centers of Southern Minnesota, 1940-1950" (unpublished Ph.D. dissertation, University of Minnesota, 1956), pp. 37-51. The basic population data used in the study are from the 1950 U. S. Census of Population.

TABLE 1. PERCENTAGE DISTRIBUTION OF SMALL CENTERS, BY 1940–1950 POPULATION CHANGE AND BY DISTANCE FROM NEAREST LARGE CENTER

Population change, 1940-1950	Distance from nearest large center	
	Less than 10 miles ($N = 114$)	10 miles or more ($N = 192$)
Gained 5 per cent or more	38.6	52.6
Did not gain 5 per cent	61.4	47.4
All	100.0	100.0

$X^2 = 5.7$, $d.f. = 1$; $P < .05$.

TABLE 2. PERCENTAGE DISTRIBUTION OF SMALL CENTERS, BY 1940–1950 POPULATION CHANGE, DISTANCE FROM NEAREST LARGE CENTER, AND POPULATION OF NEAREST LARGE CENTER

Population change, 1940-1950	Distance from nearest large center, by 1940 population of large center			
	Population 2,000–4,999		Population 5,000 or more	
	Less than 10 miles ($N = 83$)	10 miles or more ($N = 131$)	Less than 10 miles ($N = 31$)	10 miles or more ($N = 61$)
Gained 5 per cent or more	28.9	52.7	70.0	50.8
Did not gain 5 per cent	71.1	47.3	30.0	49.2
All	100.0	100.0	100.0	100.0

$X^2 = 11.8$, $d.f. = 1$; $P < .01$. $X^2 = 2.5$, $d.f. = 1$; $P > .05$.

tant (Zones III, IV). Between 1940 and 1950, 39 per cent of the small places within 10 miles of a larger center gained 5 per cent or more in population, while 53 per cent of the more isolated small centers gained this much (Table 1). This difference was significant[5] and in the direction hypothesized.

The larger centers were then divided into two subgroups—those with populations between 2,000 and 4,999, and those with 5,000 or more people[6]—and the operations were repeated. The small centers were grouped according to whether the large center to which they were nearest had a population above or below 5,000, and whether the center was more or less than 10 miles away (Table 2).

For places in areas surrounding centers with populations of 2,000 to 4,999, the relationship of growth to distance from larger centers was intensified; 29 per cent of the places within 10 miles gained 5 per cent or more, while 53 per cent of those 10 or more miles away gained that much. This difference was in the direction of the original hypothesis, and was significant (Table 2).

For places surrounding centers of 5,000 or larger, there was no significant relationship, and the direction of the apparent relationship was reversed. Over two-thirds of the places within 10 miles gained 5 per cent or more, compared with about half of those

[5] In this paper, relationships and differences with a chance occurrence probability of 5 per cent or less ($P < .05$) are considered significant.

[6] The largest center had a 1940 population of about 25,000. There were 30 centers with populations between 2,000 and 4,999 and 15 centers of 5,000 or more population.

TABLE 3. AVERAGE 1940 POPULATION OF SMALL CENTERS, BY DISTANCE FROM NEAREST LARGE CENTER AND BY POPULATION OF NEAREST LARGE CENTER

Distance from nearest large center	Population of nearest large center		
	2,000-4,999	5,000 and over	All
Less than 7 miles.....(Zone I)	313	371	333
7 through 9 miles.....(Zone II)	509	394	483
10 through 14 miles.....(Zone III)	586	550	573
15 or more miles.....(Zone IV)	693	880	740

more distant. As to the reason for this reversal, one may speculate that perhaps centers with 2,000 to 4,999 inhabitants offered more nearly the same kind of service as their smaller neighbors and, thus, were more destructively competitive. Centers over 5,000 may have stabilized competitive relations in their areas at an earlier time, and may have more nearly dominated rather than rivaled surrounding places. In such an adjustment, the smaller places may take on some of the characteristics of suburbs—that is, they provide housing and certain basic services, and the larger center provides employment and specialized services.

SIZE OF TRADE CENTERS CONTROLLED

Not only growth but also size of place was related to distance from large centers. The average size of small incorporated places increased with distance from the larger center, regardless of the size of the larger center (Table 3). Size also was related to growth, thus completing the triangle of relationships. The coefficient of correlation for size and growth of the small centers was .25, and significant (Table 5). Though not high, this relationship seemed sufficient to make it desirable to control size in analyzing the relation of growth and distance from larger centers.

The small places were grouped in three size categories on the basis of their 1940 population—under 400, 400-999, and 1,000-1,999—and the categories were compared as to the relationship of population gain to distance from the nearest large center, separately for cases where the population of the large center was less than 5,000 and those where the large center had 5,000 or more (Table 4). The small number of cases in the 1,000-1,999 category did not permit the application of a chi-square test, either for small places around centers of 5,000 or more or for those around centers with populations of 2,000-4,999. The 400-999 category had too few cases around centers of 5,000 or more.

Around centers with populations of 2,000 to 4,999, the difference in growth of small places within 10 miles and those 10 or more miles away was not significant, although it was in the expected direction. But for places of 400 to 999 population around these centers, there was a difference significant at the 5-per-cent level. Further study of the small places in this latter category showed that none of the six that were within 7 miles of the larger center (Zone I) gained in population as much as 5 per cent. It appears, then, that proximity to a center with a population of 2,000 to 4,999 was more likely to be a factor in the failure of places in the 400-999 category to gain than it was for places under 400 in population. The explanation suggested before seems supported here, in that places of

TABLE 4. PERCENTAGE DISTRIBUTION OF SMALL CENTERS, BY 1940–1950 POPULATION CHANGE, DISTANCE FROM NEAREST LARGE CENTER, AND POPULATION OF NEAREST LARGE CENTER, WITH POPULATION OF SMALL CENTERS CONTROLLED

Population change, 1940–1950, by 1940 population of small center	Distance from nearest large center, by 1940 population of large center			
	Population 2,000–4,999		Population 5,000 or more	
	Less than 10 miles ($N = 83$)	10 miles or more ($N = 131$)	Less than 10 miles ($N = 31$)	10 miles or more ($N = 61$)
Population 400 or less:	($N = 51$)	($N = 52$)	($N = 22$)	($N = 20$)
Gained 5 per cent or more	23.5	30.8	68.2	40.0
Did not gain 5 per cent	76.5	69.2	31.8	60.0
All	100.0	100.0	100.0	100.0
	[$X^2 = .8$, $d.f. = 1$; $P > .05$.]		[$X^2 = 3.5$, $d.f. = 1$; $P > .05$.]	
Population 400–999:	($N = 27$)	($N = 51$)	($N = 8$)	($N = 28$)
Gained 5 per cent or more	37.0	66.7	62.5	50.0
Did not gain 5 per cent	63.0	33.3	37.5	50.0
All	100.0	100.0	100.0	100.0
	[$X^2 = 6.2$, $d.f. = 1$; $P < .05$.]		[Not enough cases for X^2-test.]	
Population 1,000–1,999:	($N = 5$)	($N = 28$)	($N = 1$)	($N = 13$)
Gained 5 per cent or more	40.0	67.8	100.0	61.5
Did not gain 5 per cent	60.0	32.2	.....	38.5
All	100.0	100.0	100.0	100.0
	[Not enough cases for X^2-test.]		[Not enough cases for X^2-test.]	

400 to 999 would be expected to be more directly in competition with centers of 2,000 to 4,999 than would places under 400.

Around centers of 5,000 or larger, twice as many places under 400 and within 10 miles gained 5 per cent or more as did not gain that much. But among places of this size that were 10 or more miles from the larger center, only two-thirds as many gained as did not gain 5 per cent. The difference, while not significant, was not in the direction that would suggest loss of population through competition with the larger centers. Rather, it tended to corroborate the idea that places of this size near centers of 5,000 or larger may make accommodative adjustments characteristic of suburbs.

DISTANCE FROM LARGER CENTERS CONTROLLED

As a means of examining the relationship between size of center and growth, with distance from the larger center controlled, the data were analyzed by zone (Table 5). In the interpretation of the table, it should be remembered that the size range and average size of place were not alike for all zones. Although the zero-order correlation coefficient of size and growth was $r = .25$ for all small places, the breakdown by zone and size of nearest large center disclosed that the relationship was somewhat stronger for

TABLE 5. CORRELATION OF 1940 POPULATION AND 1940-1950 POPULATION GAIN OF SMALL CENTERS, BY DISTANCE FROM NEAREST LARGE CENTER AND BY POPULATION OF NEAREST LARGE CENTER

Distance of small center from nearest large center	Coefficients (r) for zones around each type of large center		
	Centers with 1940 population of:		All centers
	2,000-4,999	5,000 or more	
Less than 7 miles.....(Zone I)	−.12..(N = 27)	.08..(N = 14)	.00..(N = 41)
7 through 9 miles.....(Zone II)	*.26..(N = 56)	−.40..(N = 16)	.13..(N = 72)
10 through 14 miles.....(Zone III)	*.29..(N = 72)	.11..(N = 41)	*.22.(N = 113)
15 miles or more.....(Zone IV)	*.43..(N = 60)	.43..(N = 20)	*.43..(N = 80)
All.....	*.33.(N = 215)	−.05..(N = 91)	*.25.(N = 306)

*Significant at 5-per-cent level.

places around centers of 2,000 to 4,999 population (r = .33) but practically nonexistent for places around centers of 5,000 or more (r = −.05).

For all places within 7 miles of large centers (Zone I), there was no correlation of size and growth. There was practically none for places around centers of 5,000 or more considered separately, while the slight relationship for places around centers of 2,000 to 4,999 population was negative, in contrast to the general relationship between size and growth. In Zone II (7 to 10 miles away), there was a positive and significant relationship around centers of 2,000 to 4,999, but a negative correlation coefficient—larger but not statistically significant[7]—for places around centers of 5,000 or larger. A positive relationship was found in Zone III (10- to 15-mile radius) around larger centers in both size ranges, but it was greater for places around centers of 2,000 to 4,999 population. In Zone IV, the correlation coefficient was the same for places around centers in both size ranges. The relationship (r = .43) was greater than for any other single zone, and considerably greater than for all small places.

[7] None of the coefficients for places around centers of 5,000 or more were significant; the number of such centers was small.

While the general relationship between size and growth noted by so many researchers was not refuted, these findings indicate a rather complex but patterned relationship among size, growth, and distance from larger centers. Since these relationships have been demonstrated on the basis of a simple spatial construct that was set up rather arbitrarily, they most surely have not been described in all their complexity.

CONCLUSIONS AND IMPLICATIONS

While the findings of the present study are generally consistent with the hypothesis and with the findings of previous research, it appears that the relationships may be more complex than sometimes has been supposed. There is need of a more precise model, for small centers, of the relationship of size, growth, and distance from large centers. It is hoped that the present study is a contribution toward filling that need.

The differences in the relation of size and growth for small places around centers with populations of 2,000 to 4,999 and for those around centers of 5,000 and over suggest a need for further research to determine whether there are similar differences when the zones around other size categories of large centers are compared.

THE INFLUENCE OF PLANNING TO ENTER FARMING ON PLANS TO ATTEND COLLEGE*

by Archie O. Haller†

ABSTRACT

To date there are few empirical data available concerning factors responsible for the relatively low levels of urban labor-market achievement of farm-reared persons. The present study, based upon data for farm boys in a one-sixth random sample of Wisconsin high-school seniors in 1949, shows that planning to enter farming acts as a deterrent toward planning to attend college, in that fewer farm boys who plan to farm plan to go to college. Farm boys who plan to go to college also have higher intelligence test scores than those who do not, and those who plan to farm have lower scores than others. Contrary to expectations, however, the adverse influence of planning to farm on planning to go to college is strongest among the most intelligent farm boys. The blocking of college training by plans to farm, that are not actually carried out, may offer a partial explanation for the low levels of urban occupational achievement of farm-reared persons, and no doubt is personally and socially dysfunctional.

Studies in several countries have shown that farm-reared persons have lower levels of occupational achievement than do persons reared in urban areas.[1] Recently Lipset, in attempting to explain this fact, hypothesized that certain rural-urban differences in social structure influence levels of educational and occupational aspiration, which in turn influence levels of educational and occupational achievement.[2] This hypothesis has been tested by comparing farm-nonfarm differences in levels of educational and occupational aspiration among Wisconsin high-school seniors who were not planning to enter farming.[3] The latter research shows that farm-nonfarm residence influences the levels of educational aspiration but not levels of occupational aspiration. However, even the relationship of levels of educational aspiration to farm-nonfarm residence appears too low to account for much of the observed differences in levels of occupational achievement. If this is true, it follows that factors other than levels of aspiration may inhibit the farm-reared person in his occupational achievement.

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[1] Otto Ammon, *Die Gesellschaftordnung und Ihre Natürlichen Grundlagen* (Jena: Verlag von Gustav Fischer, 1895), p. 145; Gunnar Boalt, "Social Mobility in Stockholm," *Transactions of the Second World Congress of Sociology* (London: International Sociological Association, 1954), II, pp. 67-73; Seymour Martin Lipset, "Social Mobility and Urbanization," *Rural Sociology*, XX:3-4 (Sept.-Dec., 1955), pp. 220-228.

Concerning Ammon's data, see Pitirim Sorokin, *Social Mobility* (New York: Harper & Bros., 1927), p. 451. Aiso, see *ibid.*, pp. 144 ff.; and Pitirim A. Sorokin, Carle C. Zimmerman, and Charles C. Galpin, *A Systematic Source Book in Rural Sociology* (Minneapolis: University of Minnesota Press, 1932), III, p. 531.

[2] Lipset, *op. cit.*

[3] Archie O. Haller and William H. Sewell, "Residence and Levels of Educational and Occupational Aspiration," *American Journal of Sociology*, LXII (Jan., 1957), pp. 407-411.

One alternative explanation is that the low levels of urban occupational achievement of farm-reared males may be due partly to an unfulfilled plan to become a farm operator. Participant observation suggests that many farm people believe that boys planning to enter farming do not need a college education. Since college education seems to have become a requirement for high-level nonfarm occupational achievement, a boy who subscribes to this belief about college education for farmers may forego the college training that he might otherwise gain. This should be reflected in the college plans of seniors in high school who are planning to enter farming. It was the purpose of the present study to determine whether the proportion of farm boys who plan to obtain a college education is lower among those planning to become farmers than it is among those not planning to become farmers, and whether this is due to the influence of intelligence differences between those who plan to farm and those who do not plan to farm. The findings will provide the basis for field research concerning the influence of college plans on actual levels of nonfarm occupational achievement.

The purpose of this study was carried out by testing two related null hypotheses, as follows: *(1) Among farm boys who are seniors in high school, there is no significant association between plans regarding college and plans regarding farming as a vocation; (2) among farm boys who are seniors in high school, there is no significant association between plans regarding college and plans regarding farming as a vocation, when the influence of intelligence is controlled.*

METHOD

Data for testing the hypotheses were secured from a one-sixth random sample of all high-school seniors in the state of Wisconsin, in the school year 1947-1948.[4] The subjects of the present study include all males who reported that their parents are farmers, a total of 565 persons. Data concerning college plans were taken from a pair of questions asking whether the subject definitely planned to attend college and the name of the college in which he planned to enroll. All those who stated that they planned to enter a regular four-year degree-granting college or university were coded as "planning to attend college." All others were coded as "not planning to attend college." The dichotomy "planning to attend college" versus "not planning to attend college" is used as the dependent variable of the study. Data for the independent variable—the subject's plans regarding farming—were taken from a question asking the subject to name the vocation he planned to pursue; respondents were coded as "planning to farm" or "not planning to farm." Data for the control variable — intelligence — were the students' scores on the *Henmon-Nelson Test of Mental Ability*.[5] The I.Q. scores were rank-ordered from highest to lowest, then divided into three groups of equal size: "high I.Q." (range: 111-132), "middle I.Q." (range: 104-111), and "low I.Q." (range 61-104).

RESULTS

Data testing the first hypothesis are presented in Table 1. In general, the percentages appear to show a disproportionate number of col-

[4] The data were collected by the Wisconsin Student Counseling Center as a part of its regular program of intelligence testing in the state's high schools. The year 1947-1948 was chosen because it is the earliest period for which complete data are available for a projected longitudinal study of educational and occupational behavior.

[5] V. A. C. Henmon and M. J. Nelson, *The Henmon-Nelson Test of Mental Ability* (Chicago, Ill.: Houghton-Mifflin Co., 1942).

TABLE 1. PERCENTAGE DISTRIBUTION OF RESPONDENTS BY PLANS REGARDING COLLEGE AND PLANS REGARDING FARMING AS A VOCATION

Plans regarding college	Plans regarding farming: Planning to farm ($N = 237$)	Plans regarding farming: Not planning to farm ($N = 328$)	All ($N = 565$)
	Per cent		
Planning to attend ($N = 185$)	18	43	33
Not planning to attend ($N = 380$)	82	57	67
All ($N = 565$)	100	100	100

$X^2 = 39.52$, $d.f. = 1$, $P < .001$.

plans regarding farming must be rejected. It must be concluded that farm boys in the final year of high school who intend to farm plan to attend college less frequently than do those who do not plan to farm.

However, this finding does not necessarily mean that planning to farm directly influences college plans. This is because there is considerable evidence that each of these variables, plans regarding farming and plans regarding college, is related to intelligence. While the evidence is conflicting, most studies indicate that the more intelligent farm boys tend to leave farming to enter nonfarm occupations.[7] As shown in Table 2, the present data, in agreement with the bulk of previous findings, indicate that significantly fewer of the more intelligent farm boys plan to farm. Moreover, present data (Table 3), again in agreement with previous research, indicate that the more intelligent persons are disproportionately represented among

TABLE 2. PERCENTAGE DISTRIBUTION OF RESPONDENTS BY PLANS REGARDING FARMING AS A VOCATION AND INTELLIGENCE TEST SCORES

Plans regarding farming	Intelligence test scores: Highest one-third (IQ: 111-132) ($N = 189$)	Intelligence test scores: Middle one-third (IQ: 104-111) ($N = 188$)	Intelligence test scores: Lowest one-third (IQ: 61-104) ($N = 188$)	All ($N = 565$)
	Per cent			
Planning to farm ($N = 237$)	35	43	48	42
Not planning to farm ($N = 328$)	65	57	52	58
All ($N = 565$)	100	100	100	100

$X^2 = 7.08$, $d.f. = 2$, $P < .05$.

lege aspirants among farm boys not planning to farm. The chi-square test of the significance of the apparent relationship fails to refute this.[6] Thus, the hypothesis of no association between plans regarding college and

[6] The standard formula for chi-square, $X^2 = \Sigma\frac{f - f'}{f'}$ (where f = observed frequency, f' = expected frequency) is used in all zero-order tests of significance. See G. Udny Yule and M. G. Kendall, *An Introduction to the Theory of Statistics* (13th ed., rev.; London: Charles Griffin & Co., 1948), pp. 413-433, esp. 416.

[7] E.g., Sorokin, Zimmerman, and Galpin, *op. cit.*, pp. 266-293; and C. T. Pihlblad and C. L. Gregory, "Selective Aspects of Migration among Missouri High School Graduates," *American Sociological Review*, XIX (June, 1954), pp. 314-324.

TABLE 3. PERCENTAGE DISTRIBUTION OF RESPONDENTS BY PLANS REGARDING COLLEGE AND INTELLIGENCE TEST SCORES

Plans regarding college	Intelligence test scores			All ($N = 565$)
	Highest one-third (IQ: 111-132) ($N = 189$)	Middle one-third (IQ: 104-111) ($N = 188$)	Lowest one-third (IQ: 61-104) ($N = 188$)	
	Per cent			
Planning to attend ($N = 185$)	50	29	19	33
Not planning to attend ($N = 380$)	50	71	81	67
All ($N = 565$)	100	100	100	100

$X^2 = 44.44$, $d.f. = 2$, $P < .001$.

TABLE 4. RELATIONSHIP BETWEEN PLANS REGARDING COLLEGE AND PLANS REGARDING FARMING AS A VOCATION, WITH INTELLIGENCE TEST SCORES CONTROLLED

Intelligence test scores	Plans regarding farming			C values
	Planning to farm ($N = 237$)	Not planning to farm ($N = 328$)	All ($N = 565$)	
	Percentage in each group planning to attend college			
Highest one-third (IQ: 111-132; $N = 189$)	26	63	50	.34
Middle one-third (IQ: 104-111; $N = 188$)	15	40	29	.26
Lowest one-third (IQ: 61-104; $N = 188$)	15	22	19	.08
All ($N = 565$)	18	43	33	.....

$X^2 = 39.22$, $d.f. = 3$, $P < .001$.

those planning to attend college.[8] Thus, by inference, it could be argued that planning to farm does not inhibit the desire to attend college, but that both are due to low intelligence. More concretely, the boy who is not very bright may plan to farm rather than to go to college, while the converse may hold for his more gifted peers. For this reason, the effects of intelligence must be controlled before definite conclusions are drawn.

Data testing the hypothesis when the effect of intelligence is minimized (Hypothesis 2) are presented in Table 4. Since there is still a significant relationship, the null hypothesis obviously must be rejected.[9] The direction of the rela-

[8] Ralph F. Berdie, "Why Don't They Go to College?" *Personnel and Guidance Journal* (Mar., 1953), pp. 352-356; Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common Man' Boys," *Harvard Educational Review*, XXIII (Summer, 1953), pp. 186-203; T. E. Livesay, "Test Intelligence and College Expectation of High School Seniors in Hawaii," *Journal of Educational Research*, XXXV (Jan., 1942), pp. 334-337.

[9] See George W. Snedecor, *Statistical Methods* (4th ed.; Ames, Iowa: Iowa State College Press, 1946), pp. 188 f.; and Yule and Kendall, *op. cit.*, p. 426.

A summary chi-square with three degrees of freedom was used to test the null hy-

[*footnote continued on next page*]

tionship is indicated by the percentages in the table. At each intelligence level, farm boys planning to farm tend not to plan to go to college. Moreover, the higher the intelligence level, the more marked the relationship, as indicated by the coefficients of contingency (*C*) in Table 4.[10]

DISCUSSION

The actual educational impact of definite plans to enter farming, and the consequences attendant to this impact, can be discovered only by field research among persons several years removed from high school. However, it is probable that many of those who decide not to attend college in order to enter farming will leave the farm in a few years. This would have theoretical importance in that the influence of unfulfilled plans to enter farming on levels of educational attainment may be a factor in the low levels of nonfarm labor-market achievement of farm-reared persons noted by social scientists.[11] Practically speaking, this means that the adverse influence of planning to farm on plans to attend college may have the dysfunctional personal consequence of handicapping individuals in the race for valued occupations.[12] For the society, too, the blockage of training introduced by unfulfilled plans to enter farming may result in important practical dysfunctional consequences; for the effect of farming plans on college plans is most pronounced among the more intelligent. If a large proportion of the farm boys who have the highest mental ability are prevented from receiving college training by their plans to enter farming, but these plans are not fulfilled, many probably will be forced to enter nonfarm occupations requiring less intelligence than they possess. This will represent a distinct loss to society.

pothesis. It consists of three specific chi-square values, one for the association of plans regarding college and plans regarding farming for each level of intelligence. The over-all test of the null hypothesis is provided by summing these three specific chi-square values and their respective degrees of freedom.

[10] The coefficient of contingency is defined as $C = \sqrt{\frac{X^2}{X^2 + N}}$; see Yule and Kendall, *op. cit.*, pp. 68 f.

[11] See Ammon, *op. cit.*; Boalt, *op. cit.*; and Lipset, *op. cit.*

[12] For a theoretical discussion of dysfunctional consequences of action, see Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill.: The Free Press, 1951), pp. 21-81.

THE RELATIONSHIP OF SOCIAL ACCEPTANCE TO SOCIO-ECONOMIC STATUS AND RESIDENCE AMONG HIGH-SCHOOL STUDENTS*

by Kenneth L. Cannon†

ABSTRACT

Two hypotheses—*(1) that socio-economic status is related to social acceptance*, and *(2) that farm students are not so well accepted as town students*—were tested in this study of students enrolled in a high school in southeastern Nebraska. Sex and high-school grade were also considered because of possible effects upon results. Socio-economic status was measured by the composite of ratings by four long-time residents of the community. Results indicated that social acceptance and socio-economic status were related for town boys and girls, but were not related for those living on farms. Farm pupils were not so well accepted as town pupils by the high-school student body.

In recent years, rather extensive use has been made of sociometric type tests in schools and various other groups. Such tests "consist in an individual choosing his associates for any group of which he is or might become a member."[1] One major value of such tests is to acquaint the teacher or leader more fully with the members of his group and their individual needs, through indicating the feelings of individuals toward each other. This is of particular importance during the adolescent years when young people are attempting to become more independent of their families and tend to become more dependent upon this acceptance by the peer group.

It is possible to obtain an objective measure of how individuals are accepted by members of their own group in various situations by totaling the number of choices which each individual receives. The tests have the added advantage that the individual can do little, if anything, to affect his own score directly by the answers which he gives.

In this study, the primary purposes were to determine (*1*) whether place of residence—farm or town—is related to acceptance by the group, and (*2*) whether family socio-economic status is related to group acceptance.

Previous work on the acceptance of farm and town students had produced varying results. In a rural high school, B. E. Blanchard[2] failed to find differences in social acceptance of transported (mostly farm) and non-transported (mostly town) students. Ruth C. Little and Mildred T. Tate[3] found that acceptance of the students in an elementary school in Virginia varied inversely with the distance they traveled to school. Commuting students (mostly farm) were lower in acceptance scores than non-commuting (mostly town) students. M. G. Becker and C.

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[1] J. L. Moreno, *Who Shall Survive*, Nervous and Mental Disease Monograph Series No. 58 (Washington, D. C., 1934), p. 13.

[2] "A Social Acceptance Study of Transported and Non-Transported Pupils in a Rural Secondary School," *Journal of Experimental Education*, XV (1948), pp. 291-303.

[3] "Some Effects of Commuting on the Adjustment of Elementary Students," *Rural Sociology*, XV:4 (Dec., 1950), pp. 323-327.

P. Loomis[4] found in a consolidated high school, in Michigan, that the farm students were better accepted than either the town or the nonfarm students who lived in the open country. Louis H. Orzack[5] investigated preference and prejudice patterns of rural and urban pupils in a consolidated high school where 68 per cent of the students were urban and 32 per cent were rural. He concluded that "substantial preference and prejudice by students for each other exists along residential lines;" and "minority-group status is accorded to rural students by urban schoolmates and is accepted by rural students; . . . ."[6]

A similar lack of consistency in results has been obtained in studies on the relation of social acceptance to socio-economic status. H. O. Dahlke[7] failed to find such a relationship for youngsters attending an elementary school; but Bernice L. Neugarten[8] and M. E. Bonney[9] both found positive relationships between socio-economic status and social acceptance scores in elementary schools.

The two major hypotheses of the present study were stated as follows: (*1*) *that socio-economic status is related to social acceptance*, and (*2*) *that farm students are not so well accepted as town students.* In addition to residence and socio-economic status, two other factors—sex and education level (high-school grade)—were considered because of their possible effects upon the results.

PROCEDURE

A sociometric test developed by Ruth Staples[10] was used. The respondent is asked: (*1*) With whom would you most enjoy working on a committee for a school program? (*2*) With whom would you most enjoy going on a picnic? (*3*) What pupils would you vote for to represent this school at an important state conference? and (*4*) Who are your very best friends? The students were instructed that they might select as many names as they desired, but that their choices should be limited to students enrolled at their high school. In scoring, one point was given for each choice received.

The study was continued for four years, and the subjects were students enrolled in a small-town high school located in southeastern Nebraska during the academic years 1949-50 to 1952-53, inclusive. The enrollment in the high school approximated 100 each year, and more than half of the students lived on farms and went to and from school in private cars each day. Practically all the farm students had attended one-room rural schools, which are rather typical in the rural part of eastern Nebraska. All the students were white, and no strong ethnic or religious cleavages were encountered.

Four people were selected to rate the students' families with respect to socio-economic status (defined as "the position that a family occupies with reference to the prevailing standard of cultural possessions, effective income, material possessions, and participation

[4] "Measuring Rural, Urban and Farm and Nonfarm Cleavages in a Rural Consolidated School," *Sociometry*, XI (1948), pp. 246-261.

[5] "Preference and Prejudice Patterns among Rural and Urban Schoolmates," *Rural Sociology*, XXI:1 (Mar., 1956), pp. 29-33.

[6] *Ibid.*, p. 33.

[7] "Determinants of Sociometric Relations among Children in the Elementary School," *Sociometry*, XVI (1953), pp. 327-338.

[8] "Social Class and Friendship among School Children," *American Journal of Sociology*, LI (1945-46), pp. 305-313.

[9] "Relationships between Social Success, Family Size, Socio-Economic Home Background and Intelligence among School Children in Grades III to V," *Sociometry*, VII (1944), p. 37.

[10] Head of the Division of Child Development, University of Nebraska. This test has not been published, although it has been utilized in several studies at the University of Nebraska.

in the group activities of the community"[11]). The raters included a minister, a county official, a farmer, and a former school teacher. All four had lived in the community for at least 18 years, and were well acquainted with both town and farm families. Each rater was given the typed list of families and asked to rate each family with whom he was well acquainted, on a 1-to-5 scale (5 was high). A composite score was computed by totaling the ratings for each family and dividing by the number of judges who had rated the family. Correlation coefficients for each judge's ratings with those of each other judge ranged from .31 to .68 (all significant at 1-per-cent level).

The students were classified as either "farm" or "town" residents, inasmuch as open-country, nonfarm families are virtually nonexistent in the community.

During the four years the study was in progress, the total number of sociometric scores obtained was 381;[12] 114 of these scores were for farm girls, 102 for farm boys, 79 for town girls, and 85 for town boys. In order to use covariance and multiple correlation, a table of random numbers was used to reduce the number of scores in each group to 79. In some other analyses, all the scores were used.

RESIDENCE AND SEX DIFFERENCES

In Table 1, data are presented on the number of times the students were chosen by their fellows. A student's social acceptance score is the number of times he was chosen in the testing for a given year. For all four years included in this study, farm students had a mean score of 16.9, in contrast to a mean of 24.5 for town students—a very substantial difference. Girls had a mean of 21.8, compared with 19.6 for the boys.

TABLE 1. MEAN SOCIAL ACCEPTANCE SCORES OF FARM AND TOWN STUDENTS

Sex and residence	Mean score
Farm girls ..... ($N = 79$)	18.8
Farm boys ..... ($N = 79$)	15.0
Town girls ..... ($N = 79$)	24.8
Town boys ..... ($N = 79$)	24.1
Farm students..... ($N = 158$)	16.9
Town students..... ($N = 158$)	24.5
Girls..... ($N = 158$)	21.8
Boys..... ($N = 158$)	19.6

N = Number of individual student scores used.

Covariance was used to test the differences statistically while holding constant socio-economic status and educational level. The differences were found to be significant (Table 2).[13]

In order to explore the differences more fully, the 381 student scores were analyzed for the distribution of choices made and choices "received." It was found that town boys and town girls were chosen significantly more often by members of the opposite sex than were farm boys and farm girls. Only 18 per cent of the choices of farm girls were by boys, as compared with 26 per cent of the choices of town girls; 21 per cent of the choices of farm boys were by girls, while 34 per cent of the choices of town boys were by girls (Table 3). Correspondingly, a significantly larger proportion of the persons chosen by farm boys and girls than of those chosen by town pupils were members of their own sex (Table 4).

[11] F. S. Chapin, *The Measurement of Social Status* (Minneapolis: University of Minnesota Press, 1933), p. 3.

[12] The number of scores per student varied from 1 to 4, depending on the number of years he attended the high school during the time the study was in progress. The sociometric test was given along with other tests at yearly intervals.

[13] The socio-economic status means were 3.07 for farm students, and 3.08 for town students; 2.99 for the girls, and 3.16 for the boys.

TABLE 2. COVARIANCE ANALYSIS OF THE DIFFERENCES BETWEEN SOCIAL ACCEPTANCE SCORES, BY RESIDENCE AND SEX, WITH SOCIO-ECONOMIC STATUS AND EDUCATIONAL LEVEL HELD CONSTANT

Source of variation	Degrees of freedom	Residuals		F
		Sum of squares	Mean squares	
Residence	1	4966.06	4966.06	**17.790
Sex	1	1348.00	1348.00	* 4.829
Interaction	1	1.09	1.09	.....
Within	310	86535.00	279.15	.....

*Significant at the 5-per-cent level.
**Significant at the 1-per-cent level.

TABLE 3. EXTENT TO WHICH FARM AND TOWN GIRLS AND BOYS WERE CHOSEN BY SAME AND OPPOSITE SEX

Sex and residence	Total times chosen	Times chosen by boys		Times chosen by girls	
		Number	Per cent of total	Number	Per cent of total
Farm girls ..... ($N = 114$)	1,929	351	18.2	1,578	81.8
Town girls ..... ($N = 79$)	1,961	514	26.2	1,447	73.8
All girls ..... ($N = 193$)	*3,890*	*865*	22.2	*3,025*	77.8
Farm boys ..... ($N = 103$)	1,553	1,224	78.8	329	21.2
Town boys ..... ($N = 85$)	1,997	1,315	65.8	682	34.2
All boys ..... ($N = 188$)	*3,550*	*2,539*	71.5	*1,011*	28.5
All ..... ($N = 381$)	7,440	3,404	45.8	4,036	54.2

N = Number of individual student scores.
Chi-square values:
Between farm and town girls = 36.182 (significant at 1-per-cent level).
Between farm and town boys = 71.765 (significant at 1-per-cent level).

TABLE 4. EXTENT TO WHICH FARM AND TOWN GIRLS AND BOYS CHOSE SAME AND OPPOSITE SEX

Sex and residence	Total choices made	Times boys chosen		Times girls chosen	
		Number	Per cent of total	Number	Per cent of total
Farm girls ..... ($N = 114$)	2,362	545	23.1	1,817	76.9
Town girls ..... ($N = 79$)	1,674	466	27.8	1,208	72.2
All girls ..... ($N = 193$)	*4,036*	*1,011*	25.0	*3,025*	75.0
Farm boys ..... ($N = 103$)	1,833	1,410	77.4	423	22.6
Town boys ..... ($N = 85$)	1,571	1,129	71.9	442	28.1
All boys ..... ($N = 188$)	*3,404*	*2,539*	74.6	*865*	25.4
All ..... ($N = 381$)	7,440	3,550	47.7	3,890	52.3

N = Number of individual student scores.
Chi-square values:
Between farm and town girls = 12.330 (significant at 1-per-cent level).
Between farm and town boys = 11.533 (significant at 1-per-cent level).

SOCIO-ECONOMIC STATUS AND EDUCATION

Table 5 indicates that there is a consistent general relationship between socio-economic status and social acceptance—the higher the socio-economic status level, the higher the mean social acceptance score. Table 6 discloses that there is a marked increase in mean acceptance from the 9th grade up through the 11th, but a slight decrease from the 11th to the 12th.

TABLE 5. SOCIAL ACCEPTANCE AND SOCIO-ECONOMIC STATUS

Socio-economic status score	Mean social acceptance score
4.01-5.00 ..... (*N* = 27)	43.8
3.51-4.00 ..... (*N* = 64)	24.6
3.01-3.50 ..... (*N* = 63)	20.7
2.51-3.00 ..... (*N* = 80)	17.3
2.01-2.50 ..... (*N* = 41)	14.6
1.00-2.00 ..... (*N* = 41)	12.1
All ..... (*N* = 316)	20.7

N = Number of individual student scores used.

TABLE 6. SOCIAL ACCEPTANCE AND EDUCATIONAL LEVEL

Grade in school	Mean social acceptance score
9th ..... (*N* = 77)	14.4
10th ..... (*N* = 78)	18.1
11th ..... (*N* = 85)	25.1
12th ..... (*N* = 76)	24.8
All ..... (*N* = 316)	20.7

N = Number of individual student scores used.

In order to determine more fully the relationship of social acceptance to socio-economic status and educational level, zero, partial, and multiple correlation coefficients were computed (Table 7). For the total sample of 316, each of the coefficients was significant, but not all of the coefficients for the subgroups were significant. Perhaps the single most outstanding difference in the coefficients is with respect to the partial correlation of social acceptance and socio-economic status, where coefficients of .575 for the town girls and .501 for the town boys were obtained, in contrast to .056 for the farm girls and .127 for the farm boys.

DISCUSSION

In this study, statistical support was obtained for the hypotheses that (*1*) socio-economic status is related to social acceptance, and (*2*) farm students are not so well accepted as town students. However, the first hypothesis was supported statistically for the total sample of 316 student scores and for the town girls and boys, but not for the farm girls or the farm boys.

With respect to the second hypothesis, the differences in social acceptance scores of farm and town students were very marked. No tendency was found for these differences to diminish as the students progressed through high school. Differences in socio-economic status did not account for the differential acceptance, since the mean socio-economic status ratings of farm and town students were approximately the same. One obvious reason for the difference is that the town boys and girls have already had eight years of association with each other before they enter high school, whereas not more than one or two of the farm students who enter high school come from the same rural school. The more limited social experience and lack of opportunity for association with his age mates in the rural school may be a handicap with respect to social development for the farm student.

Another relevant explanation is that farm students—as a group—have less opportunity for interaction with other members of the high-school group during out-of-school hours than town students do. The fact that differences did not appear to diminish as the students

TABLE 7. MULTIPLE AND PARTIAL CORRELATION OF SOCIAL ACCEPTANCE, SOCIO-ECONOMIC STATUS, AND EDUCATIONAL LEVEL

Variable and type of coefficient	Total sample ($N = 316$)	Farm girls ($N = 79$)	Farm boys ($N = 79$)	Town girls ($N = 79$)	Town boys ($N = 79$)
Multiple correlation of social acceptance, socio-economic status, and educational level.	**.439	*.223	*.335	**.607	**.543
Zero-order correlation of social acceptance and socio-economic status.....	**.393	.045	.139	**.595	**.486
Zero-order correlation of social acceptance and educational level.....	**.223	.216	*.312	*.239	*.243
Partial correlation of social acceptance and socio-economic status, with educational level held constant.....	**.388	.056	.127	**.575	**.501
Partial correlation of social acceptance and educational level, with socio-economic status held constant.....	**.213	.219	**.308	.162	*.277

N = Number of individual student scores used.
*Significant at 5-per-cent level.
**Significant at 1-per-cent level.

progressed through high school may well support this explanation. Moreno[14] found in comparing day and boarding students attending the same boarding school that the day students received fewer choices on the average than the boarding students. A common limiting factor for the farm students in this study and the day students in Moreno's study is less opportunity for interaction with other members of the group during out-of-school hours. Farm students might also have less opportunity for participation in high-school activities than the town youth.

The differences between farm and town students, with respect to the proportion of choices "received" from members of the opposite sex and the proportion of choices made of members of the opposite sex, suggest that farm students are more limited than town students in development of the ability to get along with, and be acceptable to, the opposite sex. It may also suggest that a difference exists between the two groups in appearance, standards of dress, and conduct.

Perhaps the most important finding in this study is the difference between farm and town students in the relationship of social acceptance and socio-economic status, in that social acceptance scores and socio-economic status ratings were significantly related for town, but not for farm, students. Although there was no attempt in the study to establish the reason, the most obvious explanation may perhaps be the correct one—that the family socio-economic status is more evident to the group in the case of the town residents than in the case of farm residents. It seems likely that farm students are entities separate from their families to a greater degree than the town students are. Thus, the awareness of socio-economic status, or the lack of awareness, may be the important factor in explaining the difference.

In reporting on a preliminary study made by Thompson, at Syracuse University, Kuhlen comments on this relationship between social acceptance and awareness of the socio-economic status of the home. He found that the correlation of social acceptance and so-

[14] Moreno, *op. cit.*, p. 29.

cio-economic status increases for girls from the 5th to the 12th grade, but decreases for boys. He suggests:

> These contrasting trends may reflect the greater freedom of movement boys possess, which would permit them to "escape" the economic status of their homes, whereas girls have greater need for clothes and are called for at home and thus are more clearly associated with the economic status of their homes.[15]

The possibility exists that the differences between the children of families of high and low socio-economic status are greater—with respect to the personal qualities and achievements that make for social acceptance—for town residents than for farm residents. Among town families, success—and the concomitant high socio-economic status—may depend more on skills in personal relationships than among farm families, where the work is more with things than it is with people. To the extent that this is correct, a student's awareness of the family socio-economic status of another student should have little effect. Both factors, and others as well, may possibly be involved in the difference between farm and town youngsters with respect to the relationship of social acceptance to socio-economic status.

The findings of this study are in agreement with those of Little and Tate, Neugarten, and Bonney, but they do not agree with the results obtained by Blanchard, Becker and Loomis, and Dahlke. This lack of consistency may be due, in part, to possible differences in the social situations existent in the communities studied. In some high schools, for instance, the farm students have had the opportunity of attending school in town throughout the grade-school years. In other cases, the socio-economic status of farm youth may be distinctly higher than the socio-economic status of the town youngsters, or vice versa. It is also possible that the relationships will differ with the age of the group studied. Certainly this lack of consistency of results points up the need for careful analysis of other factors which may affect the relationship.

[15] Raymond T. Kuhlen, *The Psychology of Adolescent Development* (New York: Harper & Bros., 1952), p. 326.

A THEORETICAL MODEL FOR HEALTH ACTION*

by John B. Holland,† Kenneth E. Tiedke,†† and Paul A. Miller††

ABSTRACT

This paper is concerned with developing a means of studying social action, rather than attending only to structure. A county self-survey of health conditions is used as a test case. Certain assumptions and questions are specified and the flow of action is abstracted. On this basis, a model is developed. Five analytical components are seen: (*1*) convergence of interest, (*2*) establishment of an initiating set, (*3*) legitimation and sponsorship, (*4*) establishment of an executing set and mobilization of community resources, (*5*) fulfillment of a "charter." Each component is presented and discussed in some detail.

A major problem in the study of social action is the distortion involved in categorizing the action into a series of "still" pictures. Yet abstraction and categorization are necessary for analysis and understanding of dynamic contexts.[1] In any attempt to frame an action theory, one must grapple with this problem.

This paper attempts to meet this problem, and also to avoid a second problem, that of posing theories of action so conceptually remote that only the broadest of empirical generalizations are possible. The attempt here is to conceptualize at a level of abstraction which permits verification in a test case and yields generalizations which may be tested in other cases as well.

The model presented here grew out of a particular kind of "action research,"[2] a study of the process of a "self-survey" of health conditions in a Michigan county. In a community or county self-survey, local persons plan and carry out the survey and analyze the data. The particular county whose health self-survey was studied was selected because it was similar to many other counties in the Midwest. However, the limitations inherent in the study of a single case must be recog-

*This paper is a theoretical adjunct to a larger effort, an interdisciplinary research project on the social processes involved in the community "self-survey." The research has been sponsored by the Health Information Foundation, and further results will be found in Christopher Sower, John B. Holland, Kenneth E. Tiedke, and Walter E. Freeman, *Community Involvement* (Glencoe, Ill.: The Free Press, 1957). The present authors, as participants in the larger effort, gratefully acknowledge the efforts of the other participants, who influenced this paper and suggested its publication.

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[1] E.g., see the analytical problems involved in political inquiry when the "principle of temporality" is employed, in H. D. Lasswell and A. Kaplan, *Power and Society* (New Haven: Yale University Press, 1950), p. xiv.

[2] On "action research," see R. Lippitt and M. Radke, "New Trends in the Investigation of Prejudice," *The Annals of the American Academy of Political and Social Science*, Vol. 244 (Mar., 1946), pp. 167-176; and K. Lewin and P. Grabbe, "Conduct, Knowledge, and Acceptance of New Values," *Journal of Social Issues*, I:3 (1945), pp. 53-64.

There are a growing number of concrete reports of health "self-surveys"; e.g., see *Clinton County Health Survey, 1950* (Clinton County [Ohio] Health Council); *You and Your Neighbor*, Columbiana County Rural Health Survey, Ohio AES Bull. 307 (Columbus, 1949); C. H. Tate and A. T. Anderson, *Community Survival*, University of Illinois Circ. 633 (Urbana, 1949); Richard W. Poston, *Democracy Is You* [1953] and *Small Town Renaissance* [1950], (New York: Harper & Bros.); I. T. Sanders (ed.), *Making Good Communities Better* (Lexington: University of Kentucky Press, 1950).

nized, as well as those of superimposing research operations on the self-survey process.

ASSUMPTIONS AND QUESTIONS

Definitive Assumptions.—Certain basic assumptions delimit the theoretical boundary lines of the present model: *First,* it is assumed that a "self-survey" of health conditions is a special case of a general type of group action which is (*1*) voluntary, (*2*) problem-oriented, and (*3*) locally controlled, and in which (*4*) authority is diffused (in contrast to absolute control and limitation of channels). Thus, the study of a health "self-survey" in a single Michigan county is directly related to the more general problem of group action of this kind. The present case is assumed to be one which exemplifies a theory of community action —modified, as it necessarily must be, by the cultural and social variables which are unique to the empirical unit of study.

Second, it is assumed that a "self-survey" of health mobilizes the resources of a social unit—the county or community—in such a way that the ensuing action may be viewed as the operation of a unique social system or quasi-system.[3] The actions of individuals and of organizations form a pattern of relationships which approximates a social system. This system operates so as to articulate, at least temporarily, the existing social structures in the social unit so that the problem of the "self-survey" is solved. Thus, the social system that comes into being in the "self-survey" is itself a social structure, even though temporary, which is activated and de-activated within the framework of already existing structures.

Third, as a corollary to the above, it is assumed that the patterns of behavior which are evoked may be temporary and relatively unstable. That is, many kinds of relationships may be evoked temporarily and then disappear, although the relatively permanent and stable patterns in the social unit must be called upon. Thus viewed, the process of a "self-survey" is subject to (*1*) *regularities* of human interaction common to all social systems, and (*2*) *irregularities* of human interaction resulting from its temporary and relatively unstable character.[4]

Definitive Questions.—Certain questions of theoretical interest, derived partly from the foregoing assumptions, may now be stated. The general problem is, How does a temporary social system utilize and rearticulate the positions within an existing and relevant social unit? More concretely, this may be stated as: How are the people and organizations within a relevant unit activated to solve the problem of a

[3] A social system is conceived of here as including (*1*) a set of functionally interdependent relationships between the social actors of the system, (*2*) interaction between actors necessary to maintain these relationships, and (*3*) beliefs, sentiments, and symbolic equipment which develop out of and reinforce this interaction. (E.g., see T. Parsons, *Essays in Sociological Theory* [Glencoe, Ill.: The Free Press, 1949], pp. 5 f.)

[4] A growing number of authors insist on the need of focusing on the action and process variables in "community" problem-solving. Cf., H. F. Kaufman *et al.*, *Toward a Delineation of Community Research* ("Social Science Studies," Community Series No. 4 [State College: Mississippi State College, 1954]); A. B. Hollingshead *et al.*, "Community Research: Development and Present Conditions," *American Sociological Review*, XIII:2 (Apr., 1948), pp. 136-146; J. W. Green and S. C. Mayo, "A Framework for Research in the Actions of Community Groups," *Social Forces*, XXXI:4 (May, 1953), pp. 320-327; F. Hunter, *Community Power Structure* (Chapel Hill: University of North Carolina Press, 1953); P. A. Miller, *Community Health Action* (East Lansing: Michigan State College Press, 1953).

"self-survey"? From these statements of the general problem, other questions logically follow:

1. What is the relationship between various types of social structures and their participation in a temporary social action system?[5]

   Concretely: What is the relationship between the types of organizations and the participation of these organizations in a "self-survey" of health conditions?

2. How are actors, by virtue of their positions in already existing social structures, related to the organization and operation of a temporary social system?

   Concretely: How are the positions of people in the various organizations of a given social unit related to the organizational operation of a "self-survey" of health?

3. How are actors, by virtue of idiosyncratic factors, related to the organization and operation of a temporary social action system?

   Concretely: How are personal characteristics, such as skills and abilities, related to the organization and operation of a health "self-survey," and how are people's interpretations of the roles of other people related?

4. What positions and what structures are expected to be involved in the organization of a temporary social action system?

   Concretely: What is the pattern of expectancy with regard to the positions and organizations in the relevant social unit?

5. What effect does the organization and operation of a temporary social action system have on the structures of an existing social unit, from which the temporary system is formed?

   Concretely: What effect does the organization and operation of a health "self-survey" have on the relevant social unit in which it occurred?

THE FLOW OF ACTION

The flow of action is continuous from the time that the idea for a particular action is introduced until it has been rejected, has been executed successfully, or has fallen short of the stated goal. This does not mean, of course, that people act continuously upon a problem, but that any problem introduced into a social unit has a natural history—a history which may be thought of as a time line and understood in terms of the specific sequence of events of which it is composed.[6]

The flow of action may be thought of as including a series of phases, as follows:

The General Case

The regular processes which occur in the relevant social unit in such a way that equilibrium is maintained.[7]

Crisis or Problem

Effect of the problem on these general processes, and subsequent attempts at solution.

Resolution or Failure

Processes necessary to reëstablish equilibrium in the relevant social unit following the resolution of the crisis or problem, or the failure to resolve it.

New Equilibrium

Establishment of a new equilibrium, similar to, perhaps, but also somewhat different from, the equilibrium which obtained before.

The flow of action is, of course, a

[5] The postulation of the action flow occurring by means of a temporary social system, formed from relevant social structures manifested in the given social unit, is an aid in considering the impact of extra-community forces on local problem-solving. Cf. the deficiencies that many investigations have in relating a particular locale to the relational systems of the larger society, in J. H. Steward, *Area Research: Theory and Practice*, Social Science Research Council Bull. 63 (1950), pp. 129-151.

[6] See R. C. Fuller and R. R. Myers, "The Natural History of a Social Problem," *American Sociological Review*, VI:3 (June, 1941), pp. 320-329.

[7] Note Bales' use of the concept of *equilibrium*: R. F. Bales, "A Theoretical Framework for Interaction Process," in D. Cartwright and A. Zander, *Group Dynamics* (Evanston, Ill.: Row, Peterson & Co., 1953); and *idem*, *Interaction Process Analysis* (Cambridge: Addison-Wesley Press, 1951). See also, E. D. Chapple and C. E. Coon, *Principles of Anthropology* (New York: Henry Holt & Co., 1942).

continuous process, and the phases in this ideal description are merely convenient markers along a time dimension. Actually, no complex community ever follows such an ideal pattern. There may be little agreement in the community as to what constitutes a "crisis" or problem; or only a small segment of the relevant social unit may be concerned with the problem, and even the majority of the structures and positions may have but peripheral interest. These, of course, are empirical limitations which do not in themselves destroy the general applicability of the ideal-type action sequence that is here depicted.

The foregoing assumptions and theoretically fruitful questions constitute but one part of the theoretical orientation. The second part is the postulation of an analytical ideal which "stops" the flow of action in order for an explanation to be made of it, even though in reality the process does not stop. The model, or analytical ideal, is intended to designate those elements in the flow of action which appear to be analytically distinct. The authors contend that if a model undergoes testing, its modification or abandonment is, in itself, an advance in knowledge.

THE MODEL

The analytical components of the action process may be thought of as: (*1*) convergence of interest, (*2*) establishment of an initiating set, (*3*) legitimation and sponsorship, (*4*) establishment of an executing set and mobilization of community resources, and (*5*) fulfillment of a "charter."

Although these elements are listed in their approximate sequence in the flow of action, the processes subsumed under each are not necessarily those which appear at logically distinct points in time. Moreover, these elements are interwoven in such a way that they may appear together in different ways at different times in the action flow.[8]

Convergence of Interest.—In order for action to take place at all, there must be some convergence of interests of those actors in the social system who had appropriate sentiments, beliefs, and/or rationally calculated purposes with reference to a problem.[9] That is, in the concrete case, it is necessary that there be individuals who have personal—perhaps even "selfish"—motives for taking part in a self-survey, or those who are convinced that a self-survey will achieve other goals, and/or those who believe that a community should concern itself about health. The important element is the convergence of interest, regardless of the individual basis or personal motives that lie back of such convergence.

Establishment of an Initiating Set.—It is through convergence of interest—however it may be achieved in the concrete case—that a group is established which is concerned with initiating an action process. The establishment of such an initiating set of relationships leads to the development of a common frame of reference from which con-

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[8] Other writers likewise have set forth such distinctive elements: e.g., see J. W. Green and S. C. Mayo, *op. cit.*, "initiation," "goal definition and planning," "the implementation of plans," and "goal achievement"; P. A. Miller, *op. cit.*, "prior community situation," "initiation of action," "the organization of sponsorship," and "community organization methods."

[9] It is at the point of entering interests in the process of convergence that the cultural system becomes relevant. Interests, problems, and values are probably all included. The selection of the problem is probably also an entrance of the cultural system. Some authors distinguish a theory of action as including the components of personality, the social systems, and the cultural systems; see, e.g., T. Parsons and E. A. Shils, *Toward a General Theory of Action* (Cambridge: Harvard University Press, 1951), pp. 5-28.

crete action flows. This requires (*1*) that relationships between actors, whose interests converge, be such that there is a basis for internal organization—i.e., the personnel of an initiating set must include those with the right to initiate and those with the obligation to respond; (*2*) that common group ends or goals be established.[10] This means that actors with converging interests, and with relationships which make possible some measure of group stability, must define common goals or purposes. These goals become the "charter" which formalizes the relationships established. As such, it is distinct from the aspirations, motives, or value-systems of individual actors, even though these all play a part in the determination of the charter. Thus, a self-survey in health may become the charter of an initiating set, as was the case in the county studied, even though personal goals in connection with the attempt to fulfill the charter may vary.[11]

Agreement on the charter further requires that members of the initiating set *believe* that fulfillment of the charter is objectively possible. That is, they must see both the availability of appropriate means (which includes agreement on norms governing the use of means) and the accessibility of such means. On the other hand, even though the understanding of what means are available and accessible may appear to an outside observer as inadequate or illogical, the reaching of such an understanding will make possible the continuation of an initiating set, despite later developments which may prove that this understanding was in error and, hence, that the charter cannot be fulfilled. A further consideration involved in the process of establishing the charter of the initiating set is the development of acceptable justification of the need and right to initiate action of the kind specified by the charter. While the actors, as individuals, may have numerous reasons for participating in the initiating set, these are not necessarily the same as the justifications or rationalizations which the initiating set as a whole uses for establishing the collective right to initiate action. In order for an initiating set to agree fully upon a charter, it is necessary that the charter be felt to be justifiable. When justification is established by the initiating set, then internal security is obtained, as well as a basis for approaching the larger community. In terms of this model, justification is treated as an element in the action process and may occur prior to or subsequent to agreement on goals. Thus, justification may be logical or it may take the form of a series of "rationalizations," which shift as required by the exigencies of the action process.

Legitimation and Sponsorship.—The charter of the initiating set must become acceptable to a sufficient number of persons of the larger social unit to make possible the realization of the action goals. The legitimation of the right to initiate is a basic element in the action process. In a special case, such rights may be contained wholly within the initiation set itself. But in the general case of voluntary, problem-oriented, locally controlled action of the kind being examined, authorization of action is diffused throughout the community. Hence, the initiation set must obtain access to groups, formal social structures, and influential persons whose sponsorship or approval

[10] Although Green and Mayo (*op. cit.*, pp. 324-326) employ as their empirical referent a definable and, by implication, formal "action" group, their "stage of goal definition and planning for achievement" is quite similar to "establishment of charter" as used here.

[11] In references to "personnel" and "charter," the reader may see the implicit influence of B. Malinowski, *A Scientific Theory of Culture* (Chapel Hill: University of North Carolina Press, 1944).

can legitimize action. Access may be obtained in a variety of ways and involves the selection of alternate means. It may be obtained directly through the personnel of the initiating set and by means of their positions with respect to the total social structures; or it may be obtained indirectly through the relationships of members of the initiating set to other actors and organizations which, in turn, have more direct access to legitimizing agencies. Four basic types of groups are of concern: those whose approval gives sanction to the actions of the initiating set; those whose active sponsorship is essential for the mobilizing of community resources; those who remain neutral to the action; and those who may oppose the action. Legitimation, therefore, not only involves approval and sponsorship, but also requires that opposition, insofar as it may become active and organized, does not secure equivalent access to the recognized instruments of community authority.

Establishment of an Execution Set.—The establishment of an execution set is analagous to the establishment of an initiating set. While the action is developing, it is difficult, in both cases, to make valid empirical distinctions between the elements of the process. But once action has been completed, it is possible to review the process and identify the actors, and relationships between actors, in two different sets of relationships—initiation and execution.

In some specific instances the actors may be the same in both sets. Nevertheless, a distinction can be drawn between the *interaction* of the initiating set and that of the execution set. The personnel of the execution set are involved through the channels and by means of the reciprocal rights and obligations which exist in the community prior to the development of the "self-survey" social system. The channels which may be used in securing and involving personnel may be classified as follows:

1. *Organizations:* In addition to providing sponsorship as a part of legitimation, organizations may participate, through their members, in the execution of action. Obligations that members feel with respect to an organization become a resource for reaching the action goal regardless of how individual members regard that goal.
2. *Influentials:* By virtue of the position that one actor may occupy with respect to others in the total social system, he may be able to "influence" others so that they will participate in the action process. This occurs outside the framework of formal organizations (except as a process of obtaining organizational support), although the position of the influential may be derived from a position or positions within formal organizations. But the position of the influential also may be derived from the total community and may be manifested as prestige, social status, or "goodwill."
3. *Cliques:* Friendship cliques may become a channel for the involvement of persons in implementation of the action goal. The relationship of friendship includes implicit obligations to respond to requests for assistance.
4. *Propinquity relations:* Actors, by reason of their location as "neighbors," may respond in terms of an already existing pattern of rights and obligations oriented around neighborhood relationships.
5. *Kinship ties:* Ties of blood or marriage may become the basis for the involvement of the personnel in the action process.
6. *Other channels:* This is a residual category that includes types of involvement not directly attributable to the kinds of relationships specified in the previous five categories. Because of special interests or unique idiosyncratic motives, some actors may ask to be involved in an action process; they become involved through their own efforts and not because of prior relationships of a particular kind. Again, mass media, such as newspapers and radio, may reach people who otherwise would

not be reached person-to-person. The importance of such possibilities should not be underestimated, especially in a complex society.

The process of involvement, which is basic to the execution set, requires more than appropriate channels. Just as the initiating set must define the charter, so, too, the execution set must accept it. This may require the initiating set to use skills and strategies, appeals to sentiments, and the manipulation of appropriate symbols in order to justify the charter to the execution set. Justification may also be derived from the relationships between and among members of the initiating and execution sets. The charter may be accepted primarily because of reciprocal relationships among the actors rather than for the sake of the charter itself. Hence, for some actors membership in the execution set may be independent of feelings about the justifiability of the action process *per se*. The establishment of the execution set requires, for the successful fulfillment of the charter, that access be obtained to the resources of the community. The actors in the execution set must have, or must be able to obtain, (*1*) access to other personnel, if needed; (*2*) such economic goods of the community as are required; and (*3*) such skills and technology as need to be employed. They must also be able to make use of such appeals or justifications as are appropriate. In addition, and perhaps most crucial of all, the "fund of goodwill" in the community must be transferable to the goals of the action process. This process of mobilizing the resources of the community and drawing upon the "fund of good will" is implicit at all points in the action process.

Fulfillment of Charter.—The charter is the ultimate objective toward the attainment of which the forces of the temporary social system are directed. The fulfillment of the charter is the most readily discernible of the action elements, since it represents the discharge of the resources which have been mobilized for the attainment of the objectives defined by the initiating set. Obviously, this element never appears in an action sequence which has been aborted. On the other hand, this element does not refer to any measure of how *successfully* the charter has been fulfilled. Fulfillment of the charter means only that the process of attaining the goal is made concrete. Thus, when a group of people in one of the local units of the county asked other people in their locality questions about health, they were in the process of fulfilling the charter. How completely or adequately they fulfilled the charter is beyond the scope of the action model presented here, since evaluation of the quality of action is not a part of the present scheme.

CONCLUDING STATEMENT

The theoretical model for health action just presented has been developed to help answer two principal questions: (*1*) What are the analytical elements in an action process? (*2*) How do temporary, and perhaps unstable, social systems emerge from and within the complex relational systems of modern society; on what grounds are they discharged; and by what processes do they bring about an articulation of the array of relational systems which spawn them and are back of them?

The present scheme is one attempt among a growing number in the present period to develop a means of studying *action* rather than attending only to *structure*. The test of this or any other such model must involve analyzing specific cases, comparing the action that actually occurs with that postulated on the basis of the model, making tentative generalizations, and retesting the generalizations by the analysis of other cases.

RESEARCH NOTES

A CASE STUDY IN RESEARCH INTERPRETATION*

by Harold F. Kaufman, Frank D. Alexander, and Herbert A. Aurbach†

Rural sociologists have long been called upon to perform services which demand the coördination of research and extension (adult education) roles.[1] Little attempt has been made, however, to make explicit this important activity, which is here termed "the research interpretation process." This is a relevant activity in most research in rural sociology. Some contend that the distinctive contribution of the discipline is in the applied field,[2] which involves continuous interplay of research and extension roles.[3]

If the importance of research interpretation is granted, then analysis of numerous cases to make procedures and problems explicit and to codify practice, as has been done in research operations, is in order. This paper presents one case. Attention is given to three phases of research interpretation, namely: (*1*) the definition of the educational problem, (*2*) translation of the educational problem into research design, and (*3*) the dissemination of research findings through personal contact and publication.[4]

This discussion is to be regarded as exploratory and suggestive of approaches and problems in study of the process, pointing toward typing and classifying research projects from the standpoint of research interpretation. The specific case described here is a cooperative project being conducted by Mississippi State College and the Tennessee Valley Authority in Alcorn County, Mississippi.[5] The substantive problem of the study is the role of the community club in the transmission of agricultural and homemaking practices[6] and other information, and its function in general neighborhood development.

RESEARCH AND PRACTICE

Before phases of the research interpretation process are analyzed, certain relationships between research and practice should be made explicit. Practice in this context includes a gamut of activities in which rural sociological research may be applied, from organizing a rural church program to the selling of fertilizer. Of course, the import of sociological knowledge for practice is still largely potential rather than actual.

Research may be classified in terms of the dominant objectives and of the nature of the audience by which it is used. An investigation is called *basic* when the major contribution is to theory and method, and is designated as *applied* when the primary objective is the facilitation of social practice and the solution of social problems through the application of research findings.[7]

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†Respectively, Mississippi State College, State College, Miss.; Cornell University, Ithaca, N. Y., formerly Tennessee Valley Authority; and Pittsburgh Commission on Human Relations, Pittsburgh, Pa., formerly Mississippi State College.

[1] E.g., see the statement by Dwight Sanderson on the relation of rural sociology and rural social organization in his *Rural Sociology and Rural Social Organization* (New York: John Wiley & Sons, Inc., 1942), Pt. I.

[2] This position, for example, is well stated by C. E. Lively in his "Rural Sociology as Applied Science," *Rural Sociology*, VIII:4 (Dec., 1943), pp. 331-342.

[3] According to those who hold this position, the central role of rural sociology extension is the interpretation of research. Rural sociology extension separated from research soon ceases to be sociology, and research cut off from extension frequently ceases to have relevance for the world of social action and ceases to enjoy public support.

[4] The term "research interpretation" is used in the absence of a better one. It is employed in a more comprehensive sense than is sometimes the case and is not to be confused with the "interpretation of research." This latter is designated here as the dissemination of research findings and is just one step in a complex and involved process. (Cf. "Sociological Research for Action Agencies: Some Guides and Hazards," by W. L. Slocum, *Rural Sociology*, XXI:2 [June, 1956], pp. 196-199.)

[5] See *Experimental Approach to Farmer Education*, TVA Report No. T55-2 (Knoxville, Tenn., 1955). The project which provides the case for this paper is described on pp. 20-27.

[6] Projects which have both research and extension objectives have been undertaken frequently by rural sociologists. E.g., see Olaf F. Larson, "Research for Experimental Community Projects in New York," *Rural Sociology*, XV:1 (Mar., 1950), pp. 67-69. A not-too-common feature, however, is the attempt to describe the project process itself.

[7] As most support is for applied rather than basic research, a perennial problem facing the rural sociologist is how to realize basic as well as applied objectives in the same project. Some questions that need answering are: What types of applied research, both in terms of administrative organization and subject matter, contribute to theory and method? In what situations, if any, is it impossible to make such a contribution? Some contend that basic and applied objectives cannot be realized in

[*footnote continued on next page*]

The function of the researcher is to provide information. The function of the practitioner, as defined here, is the application of research findings and the realization of action goals. This paper focuses on a third functional area—one which ties research and practice together—that of research interpretation.[8] Three distinct types of skills are demanded for this activity: (*1*) basic research skills, (*2*) sophistication in social problem definition and policy statement, and (*3*) skills in translating social problems into research designs and in the reverse process of orienting research findings toward action. The last-named type of skill is a major concern of this paper. Because of the extensive activity and broad range of skills demanded, research interpretation is more appropriately a team than an individual operation.

The process of research interpretation is sometimes highlighted in the "pilot project" or the "experimental educational program." Many times it appears administratively expedient to operate a program on a small scale in order "to get the bugs out" before attempting wide-scale operation. At such times administrators frequently call on researchers for assistance. The project discussed here has been described to administrators as an "experimental educational program."

From a research standpoint, the minimum essential of a pilot project is thorough documentation. A second highly desirable element is the use of research controls. These will be discussed below as applied to the Alcorn Study.

DEFINITION OF THE EDUCATIONAL PROBLEM

A first major step in the research interpretation process is definition of the practical—in this case, the educational—problem. Central questions are, Who defines the educational problem—researcher, practitioner, or both—and how can support of the several publics be gained for research?[9] Participants in the Alcorn Study are (*1*) the land-grant college sociologists (both those with research and those with extension assignments)[10] and the TVA sociologists,[11] (*2*) the administrators in the TVA and the college, and (*3*) the major potential users of the research under consideration—educators and group leaders in agriculture, homemaking, and community development.

The central problem for the TVA is to increase the sale and proper use of fertilizer. The college is interested in gaining greater involvement in its programs—such as homemaking, community club, and 4-H work — and in adoption of recommended practices. Thus the emphasis is on ends, that are sometimes rather general, rather than on the complex educational means.

The plan of the study originated with the researchers. They had had several years of contact with the educational problems facing the practitioners at the regional, state, and local levels. They were aware of the strong interest of state and local personnel in methods of gaining more widespread adoption of recommended practices and in the revitalized community-club movement. Despite this awareness, it was necessary for the researchers to interpret to administrators and educational and community leaders the ways in which a research project oriented toward the study of the adoption of agricultural practices and community organization would help solve their practical problems.

The researchers presented the project and gained acceptance for it in terms of educational, rather than research, objectives. The general themes emphasized were those of increasing agricultural production and income, and rural improvement. Among the factors making for acceptance of the project were: (*1*) it was regarded as important by the persons concerned; (*2*) it appeared to them to be immediately useful, for a feedback of findings was begun a few months after the project was initiated in the fall of 1954; and (*3*) approval was gained through channels which were established and had prestige. One of the first steps was to set up a state advisory committee made up of personnel from the TVA and the college. This group aided in giving support to the project, in selecting the research area, and in making the initial local contacts. Even more important, however, was the county advisory committee

the same project—i.e., it is most difficult, if not impossible, to build theory and method and at the same time provide extensive information which will aid in delineating and solving the social problem at hand. How educational programs negate research controls is pointed out in this paper.

[8] Some have referred to this as playing the role of "a middle man" between the researcher and the practitioner. See Donald Young, "Sociology and the Practicing Professions," *American Sociological Review*, XX:6 (Dec., 1955), pp. 641-648.

[9] For a statement of this and related problems in applied research, see Robert K. Merton, "The Role of Applied Social Science in the Formation of Policy: A Research Memorandum," *Philosophy of Science*, XVI (1949), pp. 161-181.

[10] This joint participation was facilitated by the fact that all research, extension, and resident teaching was in one administrative unit.

[11] Economic Branch, Division of Agricultural Relations, Tennessee Valley Authority.

representing the local community development association and related interests. This group has been from the beginning the official local sponsor of the study.

TRANSLATION OF EDUCATIONAL PROBLEMS INTO RESEARCH DESIGN

Obviously, there must be sound and relevant research findings before application takes place. This raises the question of pertinent research design. Often one of the major difficulties in the translation of educational problems into effective research design is the tremendous scope and complexity of the practical or educational questions. How to get farmers to use more fertilizer or to follow other recommended practices is a question that is easily asked, but its answer in research terms is quite complex. Confronted with this and other questions of such magnitude, the researcher must decide what problems can be handled and how thoroughly they can be treated.[12]

It is desirable to present briefly the substantive design of the Alcorn Study in order to illustrate better certain problems of method. A major dependent variable is the extent of acceptance of selected farm and home practices. Among the several clusters of factors influencing acceptance are (*1*) communication media, (*2*) skills, abilities, and interaction patterns of the farm operator and his family, and (*3*) amount and organization of economic and physical resources in the farm enterprise. Of several factors, major attention is paid to one type of communication media—the open-country community (neighborhood) club. It is here that the principal interplay between education and research is found.

Three operations are to be noted—all involving the community club—which complicate the research operation but which were purported to have immediate or ultimate educational benefit. First, the club serves as a channel for the immediate feedback of research information. This is discussed in the following section. Second, detailed documentation of the activities of both researchers and educators is attempted. Included in this body of data are records of several scores of meetings. A full-time research field worker has resided in the county during most of the study. Third, an attempt is made to utilize limited research controls. Some of these have positive, and others have negative, educational contributions.

The research control which has immediate positive contribution is an educational program[13] with the two objectives of (*1*) promoting and strengthening the community club organization in general and (*2*) testing specific teaching procedures for the adoption of practices. The research control which can have a negative effect on immediate educational activities is the attempt to match neighborhoods except for the presence or absence of effective community organization. Even if the locality groups could be matched on all significant variables except the degree of organization and could be surveyed at two or more periods of time as planned, what assurance is there that the unorganized ones would not become organized during the period of the research? In fact, extension personnel have been added to the county staff to promote the community club program. From the standpoint of the educator, it is indefensible to prevent certain areas from being organized if community clubs would be effective in reaching stated objectives.

In the attempt to sample neighborhoods, it was necessary to delineate and get basic information on all 37 locality groups in the county. Six of these were selected for intensive study; criteria of selection were number of families, complexity of organization, agricultural resources, and presence or absence of a community club. Nine other neighborhoods are being studied less intensively.

DISSEMINATION OF RESEARCH FINDINGS

Methods of dissemination[14] are influenced by the type of practical problems studied, the organizational or administrative relationship of researcher to practitioner, and the nature of the audience that is to utilize the findings. For example, there is quite a variation in type of dissemination between the case where the researcher is asked a few direct factual questions by his administrator and the case where the principal audience is a lay public which has made known its needs in somewhat vague and general terms.

Certainly a first step in the dissemination

[12] An additional pressure on the researcher as he designs his study is the practitioner's expectation of quick and comprehensive answers. The investigator may be partially to blame for this naive but nevertheless demanding expectation, because he has not delineated his area of research severely and neatly enough and has not indicated to the potential practitioner the limited application of the probable research findings.

[13] The educational program is to be seen as a control, because it was promoted in certain neighborhoods and not in others.

[14] Cf. Floyd Mann and Rensis Likert, "The Need for Research on the Communication of Research Results," *Human Organization*, XI (Winter, 1952), pp. 15-19.

of research findings is to specify and to gain an understanding of the audiences to be reached. In the Alcorn project, four types of audiences—both lay and professional[15]—are to be noted: (*1*) a specific and local audience—paid workers and lay leaders in agriculture, homemaking, and community development in Alcorn County; (*2*) generalized local audiences—similar workers and leaders in other localities; (*3*) administrators and specialists at the state and regional levels; and (*4*) social science researchers.

The audience to be reached determines the specific information presented and the scope and level of presentation. Logically the research paper would precede the preparation of material for the practitioner, and frequently this is desirable from the standpoint of efficiency. Practical demands many times make this impossible, however. One temptation of a researcher is to present to a lay audience too much information without specific application. Most effective interpretation appears to be done with a limited amount of data, carefully selected and pointed.

In the Alcorn project, publication and personal contacts and meetings have been planned for each of the types of audience listed above. For the research audience, publications are to be organized around the research interpretation process (this paper is an exhibit), community club dynamics, and correlates of adoption. Several short, specific publications are planned for lay audiences. A few papers may be aimed at both lay and professional audiences.

High priority is also given to meetings and personal conferences in reaching the audience in Alcorn County and the administrators and specialists concerned. As stated above, feedback through leadership conferences, workshops, and program-planning meetings is an integral part of the project design. Considerable material on county and community backgrounds, gathered in research operations, has already been fed back, and data on community-club organization and dynamics and on adoption of practices are now being utilized. Such continuous feedback, however, places limits on research operations by putting severe time pressures on researchers and by making predetermined controls with respect to the educational program impossible.

[15] From the standpoint of professional sociologists, educators other than sociologists may be considered to be one of the lay groups of practitioners (of sociology).

FARM INCOME AND THE ADOPTION OF FARM PRACTICES*

by Frederick C. Fliegel†

Farm income is, in part, a function of the kinds of farm practices employed in conducting the farm enterprise. In the context of a study of adoption of new farm practices, this fact has several implications. First, income differentials can be viewed as making possible the adoption of recommended practices.[1] The individual who has relatively high returns from his enterprise is in a relatively favorable position to make changes in some phases of that enterprise, particularly those changes which involve increased expense. Second, a difference in farm income, or a potential difference in such income, can be viewed as a characteristic of a given practice or practices. Presumably, one factor which will recommend the adoption of an innovation in farm practices is some advantage over the existing practice, and most advantages can be translated into farm income terms. And third, farm income can also be treated as something which someone else has that is desirable, and thus may be useful in connection with measuring levels of aspiration. The implication here is that a farm operator will select behavioral models, that these models will have some influence on his behavior with reference to farm practices, and that farm income may be one criterion in the selection of particular persons as models. Of greatest importance here is that these models may serve to influence the adoption of farm practices. The characteristics of the persons who introduce change or have some influence in promoting the acceptance of change must be considered with those of the adopter and of the innovation itself, in order to arrive at an understanding of social change.

It is apparent that making a conceptual distinction between farm income as a characteristic of an individual (a characteristic which may represent the means for adoption of new farm practices), as an attribute or potential attribute of new practices (an

*This paper is based on a study of the acceptance of farm practices as related to family and other group factors, under the supervision of E. A. Wilkening, supported by the Wisconsin Agricultural Experiment Station. The writer wishes to acknowledge the computational assistance of the Numerical Analysis Laboratory, University of Wisconsin.

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[1] The conceptual framework used here is taken from H. G. Barnett, *Innovation: The Basis of Cultural Change* (New York: McGraw-Hill Book Co., Inc., 1953), esp. pp. 291-411.

attribute which would recommend them for adoption), and as a characteristic of individuals who serve as models for behavior in the day-to-day activities involved in the farm enterprise does not produce three distinct concepts or discrete entities. The same farm income, or a segment of that income, may fit into any one or a combination of the conceptual categories which have been outlined. Further, in a concrete situation it may be impossible to say whether farm income functions as the dependent or independent variable with reference to adoption of farm practices. The hypotheses which can be tested must then be stated in terms of existence and direction of relationships or differences, in the knowledge that causal inferences may have to be based on other information which may or may not be available.

HYPOTHESES

The purpose of the present study was to test two hypotheses concerning relationships between farm income and the adoption of farm practices. The first, in null form, may be stated as follows: *there is no association between adoption of new farm practices and net farm income.* The second, also in null form, is that *farm operators will designate as "best farmers" other operators who are like themselves in net farm income.* The alternative hypothesis in this case is that farm operators will choose as "best farmers" those who rank higher than themselves in net farm income.

Viewed in terms of the conceptual framework previously stated, the second hypothesis implies an assumption that the "best farmers" serve as models of behavior in the adoption of farm practices as well as in a general sense, that they rank high in adoption of practices, and that, at least by example, they serve to promote the acceptance of new farm practices. No data are available to test this assumption.[2]

THE DATA

Data on the adoption of 20 extension-recommended farm practices were obtained from a random sample of 200 Rock County, Wisconsin, farm owner-operators.[3] Each respondent was given an adoption score representing that proportion of the practices applicable to his own farm which he was following in 1951, the year preceding the survey.[4] Each was also asked to indicate his choice of "best farmers." This choice was restricted to operators engaged in a type of farming similar to that of the respondent and to operators known "pretty well" by the respondent. Each respondent was asked to name two such persons; the first one named is used in this paper.

Farm income data were obtained from Wisconsin state income-tax returns. Tax returns filed in a regional tax office were consulted for each sample farm operator and for the operators selected as "best farmers." Net farm income[5] was abstracted from these returns for 1951, the year to which the practice-adoption information applied. No farm income-tax returns were available for 27 of the 200 sample operators; in all but 3 of these cases, no return had been filed. The returns from these three were being used by tax officials and, therefore, were not available. Whether the 24 operators who had not filed farm income-tax returns had incomes too low to warrant

[2] Present data do not permit this to be inferred, although it seems fairly likely, in this case, on intuitive grounds.

Several studies comparing the characteristics of farm operators with those of persons chosen as sources of farm information are relevant here. See H. F. Lionberger, *Information-Seeking Habits and Characteristics of Farm Operators*, Missouri AES Research Bull. 581 (Columbia, 1955), pp. 29-32. Also, see the following articles in *Rural Sociology*: E. A. Wilkening, "Informal Leaders and Innovators in Farm Practices," XVII:3 (1952), pp. 272-275; H. F. Lionberger, "Some Characteristics of Farm Operators Sought as Sources of Farm Information in a Missouri Community," XVIII:4 (1953), pp. 327-338, and his "The Relation of Informal Social Groups to the Diffusion of Farm Information in a Northeast Missouri Farm Community," XIX:3 (1954), pp. 233-243; and C. P. Marsh and A. L. Coleman, "Farmers' Practice-Adoption Rates in Relation to Adoption Rates of 'Leaders,'" XIX:2 (1954), pp. 180 f. As these studies show, the local leader (model of behavior) is not necessarily an outstanding adopter of new practices. The prevailing values of the farm people in a particular area have to be taken into account.

[3] For purposes of the larger study, of which this paper is a part, the sample was restricted to farmers who had owned and operated their farms for at least 3 years; who had complete families, with children between the ages of 12 and 19 years living at home; and who were employed off the farm less than 50 days in the year prior to the survey. The sample is, therefore, relatively homogeneous with respect to these variables.

[4] Details on the content and construction of a directly comparable index of adoption of farm practices are available in E. A. Wilkening, *Adoption of Improved Farm Practices As Related to Family Factors*, Wisconsin AES Bull. 183 (Madison, 1953). A factor analysis of the adoption data from that study supports the assumption that adoption can be treated as a single dimension. (See F. C. Fliegel, "A Multiple Correlation Analysis of Factors Associated with Adoption of Farm Practices," [unpublished doctoral dissertation, University of Wisconsin, 1955], pp. 46-61.)

[5] Farm expenses and depreciation are subtracted from gross farm profit to arrive at the net farm-profit figure described in this paper as net farm income. For details, see Wisconsin Dept. of Taxation, *State of Wisconsin, Schedule of Farm Income and Expenses*, Form 1-Fc (Madison, Wis.).

tax payment, or whether they had failed to pay taxes when they should have, cannot be ascertained from the available data. A comparison of the crop acreages of the 173 operators who had filed returns with those of the 27 for whom no returns were available showed no significant difference between the two groups.[6] In the absence of evidence that any consistent bias was involved in the failure to file returns, this group has been omitted from the analysis. Failure of some "best farmers" to file returns, non-response to the question on "best farmers," and choice of "best farmers" residing outside the state[7] further reduced the number of cases, so that only 147 pairs (respondent and best farmer named) were available for testing the second hypothesis.

ANALYSIS

Chi-square was used to test the first hypothesis. There was a highly significant tendency for those operators who ranked high in the adoption of farm practices to report relatively high net farm incomes.[8] Since the probability that the association between adoption and net farm income was due to chance was less than .1 per cent, the null hypothesis could not be accepted.[9] The conclusion for this sample of farm operators is that net farm income is significantly associated with the adoption of extension-recommended farm practices, and that this association is positive in direction. In this instance, the dependent variable has not been identified as either adoption or net farm income. The association may mean that high income enables the farmer to adopt, or that adoption of recommended practices results in higher net income, or that the process operates in both directions, to some extent.

The net farm income of each sample farm operator was compared with the net farm income of the "best farmer" chosen by him. Of the 147 pairs of farmers available for this comparison, in 91 (62 per cent) the sample operator chose a "best farmer" with net farm income higher than his own. The remaining choices were in the opposite direction. F. Wilcoxon's matched-pairs signed-ranks test was used to test the null hypothesis, because it takes into account the magnitude of the differences in income within pairs as well as the direction of the choice. The hypothesis that farm operators will choose "best farmers" who are like themselves in net farm income could not be accepted. The test showed a highly significant tendency for the operators to choose "best farmers" with net farm incomes higher than their own.[10] It is concluded that the farm operators in this sample regard relatively high farm income as an attribute of a good farmer.[11]

CONCLUSION

To resolve the problem of which is cause and which is effect, or whether the process works both ways, a study of the relationship between adoption and farm income over a period of time would be necessary. Another, and less direct, way to shed some light on this problem would be to show the relationship between income and the adoption of practices requiring considerable capital as compared with those requiring small amounts. In any event, the evidence of relationship given here should help to fill a gap in the knowledge about these factors in actual field situations.

From the fact that farm operators tend to choose operators with farm incomes higher than their own as "best farmers" it can be inferred that one aspect of the motivation of the farmer with reference to his enterprise is to achieve high income. Very little concrete evidence of the motivations involved in farming is yet available. A next logical step in this particular area of research would be to determine whether those operators chosen as models of behavior in farming are also high in adoption of recommended practices. This would help provide an essential link in the conceptual

[6] A chi-square value of .034, $P < .90$ showed that the two distributions could have come from populations having the same median crop acreage. The median test is described in L. E. Moses, "Nonparametric Statistics for Psychological Research," *Psychological Bulletin*, XLIX (1952).

[7] Rock County is located on the southern border of Wisconsin; Illinois tax returns are not open for inspection.

[8] $X^2 = 34.18$, $d.f. = 9$, $P < .001$. H. F. Lionberger reports a similar relationship between gross farm income and adoption of recommended practices. (See his *Sources and Use of Farm and Home Information by Low-Income Farmers in Missouri*, Missouri AES Research Bull. 472 [Columbia, 1951].)

[9] The .05-level was selected as the critical significance level for all tests of hypotheses in this paper.

[10] With 146 pairs, $P = 4.37$, $P < .0001$. A tie occurred in one case; the respondent chose himself. This pair was not used in the test. The signed-ranks test is discussed in L. E. Moses, *op. cit.*

[11] Mean incomes were $3,650 and $5,170 for the sample and "best farmers," respectively. The difference of $1,520 shows that those chosen as "best farmers" were not radically higher in net farm income than the choosers. Observations made in the interview situation suggest that the choices usually went to friends living nearby who were considered to be doing a good job of farming. Exceptionally successful farmers, though often mentioned, were rejected as choices because their success was regarded as due to factors other than personal ability, such as inheritance.

framework discussed in this paper. Tests of the hypotheses presented here provide only two items of relatively specific information. Whether the "best farmer" serves to promote change in farm practices either directly or by example should be determined. Beyond that, many other characteristics of advocates of change, of innovations, and of adopters need to be investigated.

BUREAU OF THE CENSUS DATA ON THE SELECTIVITY OF MIGRATION FROM FARMS*

by James D. Tarver†

Sociologists long have studied migration; nonetheless, their published data are limited. Moreover, the classifications used in the census reports are too meager for adequate analyses of the types of migration and the numbers and characteristics of the various classes of migrants.[1] In consequence, the study of the selectivity of migration has been difficult and, thus far, has yielded disappointing results, especially as to the characteristics of farm-to-nonfarm movers.

The objectives of this paper are: *first*, to show that there is a paucity of published census data on certain characteristics of migrants, especially those migrating from farms; and *second*, to suggest a new classification of migrants that should make possible further analysis to fill this gap in research knowledge. The author has no desire to criticize the work of the Bureau of the Census or that of the sociologists in the Population Division of the Bureau. Rather, the purpose is to describe one of the major conceptual shortcomings of present census migration materials, in the hope that this may encourage and stimulate students of migration to evaluate both the decennial census and the Current Population Survey publications and to submit suggestions for improving them.[2]

TYPES OF MIGRATION

In most areas of the United States, the fertility of the rural-farm population is such that more children are born and reared than are needed to replace the adults who die, and this usually leads to the migration of some or most of the excess. Moreover, the increasing technological efficiency of American agriculture has swollen the volume of migration from farms beyond the normal "drainage" of the excess over replacement needs.

In terms of family units, or in relationship to family or household membership, four major types of migration are distinguishable. First, children leaving their parental homes as they reach or near adulthood comprise a "normal" type of migration and reflect a stage in the family life cycle. The second type is that of complete families evacuating farms. The third type is exemplified by the movement from a farm of a portion of a family—other than the normal migration of children reaching adulthood. Both parents, or one parent and part or all of the children in a family may move, often as a group, leaving the other members on the farm. All migration not included in the other three types may be regarded as a fourth category.

CENSUS CLASSIFICATIONS AND DATA

In practically all the published tabulations of the Bureau of the Census relating to migration, the individual rather than the family or household is the unit. Several partial exceptions should be noted, however. The 1935-1940 internal migrants were classified by type of household in which they lived in 1940, and by their relationship to the head of the household.[3] Also for the census of 1940, in a special report on families,[4] the median size of family was given for the United States by characteristics of the family head in 1940—residence, marital status, age, sex, and migration status (for 1935-1940 period). The same report gave the distribution of families in the United States, census regions, urban and rural areas, and large cities by the same characteristics of the head and by the spe-

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[1] For an excellent account of the characteristics of migrants, based on annual survey data which the U. S. Bureau of the Census collects, see their *Current Population Reports, Population Characteristics*, "Internal Migration and Mobility in the United States, March 1949 to March 1950." Series P-20, No. 36 (Washington, Dec. 9, 1951).

[2] For a provocative paper which argues for the retention of the "farm population" as a distinctive category of enumeration in the 1960 Census of Population, see Calvin L. Beale, "Farm Population as a Useful Demographic Concept," *Agricultural Economics Research*, IX:3 (July, 1957), pp. 105-111. Comments on any shortcoming of present migration data may be made directly to the Bureau of the Census or transmitted through one of the societies represented on the Council of Census Users.

[3] U. S. Bureau of the Census, *Sixteenth Census of the U. S., 1940, Population: Internal Migration, 1935 to 1940*, "Social Characteristics of Migrants," p. 3.

[4] U. S. Bureau of the Census, *Sixteenth Census of the U. S., 1940, Population: Families*, "Size of Family and Age of Head," Tables VI and 7.

cific size of the family. The Current Population Reports[5] are also providing, from sample surveys, information on the mobility status of the various family members. Unfortunately, there is no cross-classification by farm-nonfarm residence at origin or destination, except for major census regions. A forthcoming special report on "farm-nonfarm movers"[6] will provide some additional data, in that marital status will be cross-classified with mobility status.

All of these reports classify migrants by family or household status on the enumeration date only. The lack of data on the family status of migrants at the time of migration is a serious handicap. A person widowed, separated, or divorced on the date of enumeration may have been married at the time he moved, while the head of a family of several members at the date of enumeration may have been single when he migrated.

In the 1950 census, the following information on the mobility status of persons one year old and over residing in continental United States was obtained for a 20-per-cent sample of the population: whether a year earlier the person was living in the same house, whether he was living on a farm, whether he was living in the same county, and, if he was not in the same county, where he was living then.[7]

CONCLUSION

In order to maximize the usefulness of published census data in migration research, there is a need for the following additional types of classification:

1. By type of residence at both origin and destination.
2. By the four types of migration according to the unit of migration, as proposed earlier.
3. By characteristics of family head and size of family at the date of migration.

Some research advantages of having migration data thus detailed are the following: (*1*) It would be possible to measure the volume of migration, by type of migrant. (*2*) It would be possible to ascertain the differential social and economic characteristics of the dissimilar types of migrants. (*3*) It would facilitate comparative analysis of the family backgrounds of the migrants. (*4*) It would contribute in general to precision in sociological analyses and interpretations of the selectivity of migration.

[5] E.g., U. S. Bureau of the Census, *Current Population Reports, Population Characteristics*, "Household and Family Characteristics: April 1955 and 1954," Series P-20, No. 67 (Washington, May 2, 1956), Tables 9 and 10.

[6] U. S. Bureau of the Census, *Population Mobility—Farm-Nonfarm Movers*, Special Report P-E, No. 4C (Washington, D. C.).

[7] U. S. Bureau of the Census, *Urban and Rural Enumerator's Reference Manual, 1950 Census of the United States* (Washington, D. C.), pp. 47-49, pars. 190-203.

CONSERVATISM-LIBERALISM AND THE FARM ORGANIZATIONS*

by Wayne C. Rohrer†

Rural sociologists have generally regarded the Farmers' Union[1] as more "liberal" than the Grange[2] or the Farm Bureau[3]; they have either not distinguished between the Grange and Farm Bureau as to liberalism, or they have characterized the Grange as more conservative.[4] To the writer's knowledge, no objective test for differentiating farm organizations as to conservatism-liberalism has been developed. Moreover, the words "conservative" and "liberal" undoubtedly hold varying meanings for different people, although they are widely used designations.

THREE MAJOR ORGANIZATIONS COMPARED

In an effort to move toward a more objective characterization of the organiza-

*This paper is based on data collected under a Ford Foundation grant and reported in Charles P. Loomis *et al.*, *Rural Social Systems and Adult Education* (East Lansing: Michigan State University Press, 1953), and in Wayne C. Rohrer, "Structure and Value Orientation of the Large Scale Farm Organizations and Their Relationship to Non-Vocational Adult Education Programs" (unpublished Ph.D. thesis, Michigan State University).

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[1] The Farmers' Educational and Cooperative Union of America.

[2] Officially, the Patrons of Husbandry.

[3] The American Farm Bureau Federation.

[4] Wesley MacCune, in *The Farm Bloc* (New York: Doubleday & Co., 1943), p. 45, calls the Grange "the most conservative." David E. Lindstrom, in *American Farmers and Rural Organizations* (Champaign, Ill.: The Garrard Press, 1948), pages 177, 179, and 218, calls the Grange "conservative," the Union "leftwing or radical," and the Bureau the "middle ground" organization. Lowry Nelson, in his *Rural Sociology* (New York: American Book Co., 1948), p. 532, and Charles P. Loomis and J. Allan Beegle, in their *Rural Social Systems* (New York: Prentice-Hall, Inc., 1950), p. 635, refer to the "liberalism" of the Union in contrast to the position of the other two. Dwight Sanderson, in *Rural Sociology and Rural Social Organization* (New York: John Wiley & Sons, Inc., 1943), pages 509, 515, and 518, says the Grange includes "the better class of farm families," the Union "represents the middle-class farmers," and the Bureau appeals to "mostly middle- and better-class farmers."

tions' value orientations, and as a means of distinguishing between the Grange and the Bureau in this respect, the writer extracted policy statements from resolutions adopted by the national conventions of the three organizations during the period, December 1950-March 1952, and had them ranked by judges, without identification as to organization. Three judges were used in pretesting and seven in the main study. All ten judges had academic training in sociology; four held the Ph.D., three the M.A., and three the B.A. They included both sexes and the two major political parties, and were reared in various parts of the country. They ranged in age from 20 through 60, and half were of rural background and half of urban background.

The judges ranked the statements on nationalism-patriotism, "achievement" and "success," "humanitarian mores," and freedom, which are among the "major value-orientations in America," according to Robin M. Williams, Jr.[5] They also ranked the statements as "most conservative," "least conservative," and "neutral" as to politics and economics. In all, the judges were asked to make 41 different rankings; the statements of the organizations on a given subject were to be ranked on several value continua, using the three categories above. In some cases there were statements by all three to be ranked, and in other cases statements were available from only two. The statements were taken from resolutions on the United Nations, the "Point IV" technical assistance program, the domestic economy, and taxation.

A count of the number of "most conservative," "least conservative," and "neutral" judgments received by each organization showed a high degree of consensus by the judges that the Farmers' Union is the least conservative. The Farm Bureau was judged more conservative than the Grange; more than half of the statements judged "most conservative" were from the Bureau. Almost half of the Grange statements were rated "neutral" and about a third "most conservative."[6] Thus the judges' evaluations differed from most statements in the rural sociological literature, as to the positions of the Grange and the Bureau.

[5] *American Society: A Sociological Interpretation* (New York: Alfred A. Knopf, Inc., 1951), pp. 388-442.

[6] For the totaled judgments (3 x 3 tables), $X^2 = 87.06$, $P < .01$.

FARM BUREAU AND GRANGE

In a further effort to differentiate the Grange and Farm Bureau, the judges were asked to rank statements of the two organizations on farmer cooperatives and philosophy of government. The statements are given in Chart 1.

The statements were presented to the judges without identification as to which organization had adopted them, and the judges were to do their ranking by answering three questions about each pair of statements. The questions and the number of judges considering each organization's statement the more conservative are indicated in Table 1.

As the tabulation indicates, the judges had difficulty in differentiating on questions 1, 4, and 5. In general, it appears that they considered both organizations conservative, and which one was judged *more* conservative seems to depend on the context of the statement. While the judges classified the Grange as more conservative as to questions 2 and 6, they were unanimous in giving the more conservative rating to the Bureau in responding to question 3, concerning humanitarian mores. This latter rating agrees in general with their earlier rating of the two organizations as to the degree of humanitarianism reflected in their resolutions on taxation, the domestic economy, and the Point IV program.

CONCLUDING COMMENT

A certain ambivalence is suggested in the value orientation of the Grange. On the one hand it is judged more humanitarian, which connotes a brotherhood and equality in which members of the group or society act together for mutual benefit. Yet the judges were unanimous in choosing the Grange as more conservative in regard to the proper role of government. The Grange seems more *laissez-faire* and would give government only a minimum role in the lives of citizens. This ambivalence may account for the fact that the judges placed the Grange in the "neutral" position more often than they so ranked the other organizations.

The Farm Bureau statements, on the other hand, do not reflect such ambivalence.

CHART 1. STATEMENTS OF THE GRANGE AND THE FARM BUREAU*

Farm Cooperatives

Grange

Farm cooperatives offer the most practical and effective means of combating monopoly, by providing real competition in areas where little or no competition would otherwise exist, thus making the future of the free enterprise system more secure. These agencies give us the opportunity to pool resources for our economic advancement just as other segments of society have done for many years.

Because we believe that the capitalistic, free enterprise system is the best economic system yet devised, we hereby reaffirm our intention to defend the right of farmers to market their commodities, purchase supplies, and perform services for themselves on a cooperative, non-profit basis.

Farm Bureau

Agricultural cooperatives are an integral part of the 20th Century farming business and have significantly aided the successful operation of the farm economy. They are a vital part of a free competitive enterprise system. Their basic aim is to enable the farmer to sell his products and to purchase his farm supplies under conditions which allow him to compete effectively in a mass production and distribution economy. Agricultural producers must continue to have the right to market their products, purchase farm supplies, and acquire needed services through their cooperatives. Bona fide agricultural cooperatives must be protected against certain vested interests who are using the term "cooperative" as a guise for selfish motives. We will defend, to the fullest extent of our ability, the right of farmers to form and operate cooperative associations.

Government

[The Grange] . . . earnestly advocates a reversal of present trends and policies of over-centralizing authority in the Federal Government that are undermining our dual system of government and our system of private enterprise.

The final check on which the Founding Fathers relied to keep a government of checks and balances in operation was the check placed in the hands of Congress on all expenditures. If Congress loses this control, the people lose their ultimate control over their government. It is precisely this control which is being lost.

There is no more certain road to a socialistic state, there is no more direct way to loss of individual freedom and liberty than by excessive taxation and governmental spending through bureaus which by propaganda and devious ways continue to grow apace. But even rampant bureaucracy can be checked; Congress can starve it. . . .

Over-centralization of government and lack of coordination of administration remain pressing problems. Recent events re-emphasize the need for decentralization which will keep "big government" close to and responsive to the people.

Programs dealing with problems of national importance do not necessarily require Federal administration. Experience has shown that over-centralization of administration can be avoided by utilization of principles of Federal-State-local cooperation. Adjustment of programs to local needs through this pattern of administration can greatly increase the value to the people of governmental effort. Federal grants-in-aid facilitate administrative decentralization and make it possible for the Federal Government to participate in a program without producing excessive Federal control or a loss of efficiency at the State and local levels.

*Source for Grange statements: J. T. Sanders, *Summary of National Legislative Policies and Programs of the National Grange for 1952* (Washington, D. C.: The National Grange, 1952), pp. 13 and 25.

Source for Farm Bureau: *32nd Annual Convention of the American Farm Bureau Federation* (Chicago: American Farm Bureau Federation, 1950), "Resolutions," pp. 20-21.

The combination of a generally conservative orientation and the lack of ambivalence may account for the fact that the Bureau was judged "most conservative" the greatest number of times.

In general, it may be concluded that organizational themes or value statements which are manifestly similar in their conservatism or liberalism may have quite different latent meanings. Further research on the value orientations of farm organizations is suggested.

TABLE 1. NUMBER OF JUDGES CONSIDERING THE GRANGE MOST CONSERVATIVE, THE FARM BUREAU MOST CONSERVATIVE, AND BOTH EQUALLY SO, ON EACH OF SIX STATEMENTS

Questions about statements on cooperatives:	*Grange*	*Bureau*	*Equal*
1. Which statement most regards the role of cooperatives as contributing to individual achievement?	2	3	2
2. Which statement would you rank as the most conservative economic attitude?	5	1	1
3. Which statement least emphasizes the value of humanitarian mores?	0	7	0
Questions about statements on government:			
4. Which statement would you rank as the most conservative economic attitude?	3	3	1
5. Which statement would you rank as the most conservative political attitude?	3	3	1
6. Which statement most emphasizes government as a restraint on the individual?	7	0	0

VALIDITY OF THE CONCEPT OF STAGES IN THE ADOPTION PROCESS*

by George M. Beal, † Everett M. Rogers,†† and Joe M. Bohlen†

The research effort of many rural sociologists in recent years has been directed toward the study of the diffusion and adoption of farm and home practices. It has been recognized that for any individual, the adoption of a complex new farm or home practice is not a single-unit act. The adoption process is probably a specific application of the general pattern by which human beings learn to make changes of any kind. A marked similarity has been noted between the process by which farm practices are adopted, the concept of diffusion as used by anthropologists[1] and the learning theories of certain social psychologists, especially Dewey.[2]

Rural sociology research workers have recognized, at least implicitly, that there may be stages in the adoption process, and that people may use different sources of information at the different stages. This is indicated by the use of concepts such as first source of information about a practice, main source of information, most influential (or important, valuable, helpful) source, usual sources, source of additional information, and source of information to help make the change.

Wilkening suggested that the adoption of new farm practices is a process, and indicated four stages in this process.[3] A committee of rural sociologists who were doing research in this field later described a series of five stages through which farm people pass in the adoption of new agricultural practices.[4] The committee developed this theoretical construct from a review of the literature but did not empirically test it. Presented here are findings from a study designed to determine whether the five conceptualized stages in the adoption process could be validated empirically. In attempting such a test the authors did not necessarily assume that there are only five possible stages, that the stages are discrete and mutually exclusive, or that the present conceptualization of the stages is the best or final one. Rather, the stages were taken as given, and the effort was to determine

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[1] One of the first studies of the diffusion and adoption of farm practices was based on a review of the anthropologists' research and writing on diffusion. See Neal C. Gross, "The Diffusion of a Cultural Trait in Two Iowa Townships" (unpublished master's thesis, Iowa State College, 1942), pp. 10-20.

[2] John Dewey, *How We Think* (New York: D. C. Heath & Co., 1910), p. 72.

[3] Eugene A. Wilkening, *Acceptance of Improved Farm Practices in Three Coastal Plains Counties*, North Carolina AES Tech. Bull. 98 (Raleigh, 1952); p. 16; and *idem*, *Adoption of Improved Farm Practices as Related to Family Factors*, Wisconsin AES Res. Bull. 183 (Madison, 1953), p. 10.

[4] Subcommittee for the Study of Diffusion of Farm Practices, North Central Rural Sociology Committee, *How Farm People Accept New Ideas*, Iowa Agricultural Extension Service, Special Rpt. 15 (Ames, 1955), pp. 3 f.

whether they existed as realities in the minds of people going through the adoption process. It was felt that a concept, to be valid, must have a unique and discrete referent.

THE FIVE STAGES

Following are the five stages as designated and described for the purposes of the present study. Two of the designations differ from those of the committee but the stages are otherwise similar to those of the committee:

Awareness. At this stage the individual is exposed to the idea—he only knows about it. He is aware that the new practice exists, but he lacks details concerning it. The motivation to seek information has not yet been created.

Information. At this stage the individual is motivated by his curiosity and interest in the new practice. He is interpreting the new idea by relating it to other experiences and other phenomena which are part of his environment. He is attempting to get general information about the idea—the kind of information that will help him relate it to other experiences.

Application. Here the individual is concerned with applying the idea to his present or predicted situation. He goes through a "mental trial" that involves reflection upon past interpretations of similar stimuli, and projection to the future in regard to goals and objectives. The relative advantage of the new practice over other alternatives is considered. A decision to try or not to try the new practice is made.

Trial. The individual is now interested in actually trying out the idea in his own situation. At this point, he is concerned with the specifics of how, what, when, and where. Information and data regarding the technique and method are sought—rather than evaluative information, as at the previous stage.

Adoption. The thought process at this stage consists of evaluation, satisfaction with the trial, and the decision for continued use.

The practice selected for testing the stages concept was the feeding of antibiotics to swine, a fairly new development at the time of the study. In connection with a larger study of communication and the diffusion of farm practices, data on information sources for this practice were obtained in 1955 from 148 farmers residing in the trade area community of a central Iowa town. Questions were asked about information sources at each of the five assumed stages, as follows: (*1*) *Awareness:* Where or from whom did you first see or hear about the use of antibiotics in hog feed? (*2*) *Information:* After you first heard about antibiotics, where or from whom did you get additional, more detailed information about antibiotics? (*3*) *Application:* After you had enough information to know quite a lot about antibiotics, where or from whom did you get the information that helped you decide whether or not to actually try it on your own farm? (*4*) *Trial:* After you decided to try out antibiotics on your own farm, where or from whom did you get the most information or help on how much to use, how to feed it, how to handle it, where to get it, and the kind to use on your own farm? (*5*) *Adoption:* After you once tried antibiotics on your own farm, how did you decide whether or not to continue using it—actually adopt it?

Each farmer was also asked to recall the dates when he became aware of, tried, and adopted the practice.

In general, the data from the study tend to validate the stages. Four types of evidence are available:

INTERVIEWERS' FIELD OBSERVATIONS

One of the authors directed the field work and personally interviewed more than a fifth of the farmers. It is his judgment that most adopters of the practice were cognizant that they did go through a series of stages as they moved toward the adoption of antibiotics. The stages suggested appeared to be meaningful to the respondents. They realized that they had received information from different sources at the various stages. They seemed to have little trouble recalling when they became aware of, tried, and adopted the practice and their sources of information at each stage. There were very few "don't know" and "I don't remember" answers. The other four field interviewers concurred in these observations.[5]

CONSISTENCY OF STAGES SEQUENCE

To be of theoretical value, the stages should be such that the vast majority of farmers go through each of the five in adopting a given practice. Of the 105

[5] It is recognized that the respondents were "forced" to answer specific questions; thus it might be argued that the idea of the stages was forced. However, the authors believe that if the stages had not been meaningful to the respondents, they would have stated so, refused to answer, given "don't know" answers, or suggested other "stages" or actions taken.

farmers who had adopted the antibiotics practice by 1955, all indicated by their responses that they had passed through the awareness, information, and application stages. Ten reported that they had not gone through the trial stage on their own farm, but had moved directly from application to adoption. However, several of these ten indicated an awareness that this is a stage they often go through, even though they did not in the case of antibiotics.

DIFFERENT SOURCES FOR DIFFERENT STAGES

It is quite possible for a farmer to use the same sources of information—perhaps in different ways—at the several stages in the adoption process. If, however, farmers generally name different sources or combinations of sources for the different stages, this would seem to indicate some differentiation of the stages. When the sources named for each stage were compared with those named for the next stage (Table 1), it was found that in most cases different sources were given. All farmers named

TABLE 1. PERCENTAGE OF FARMERS WHO NAMED DIFFERENT SOURCES OF INFORMATION FOR EACH ADJACENT PAIR OF STAGES IN THE ADOPTION PROCESS

Adjacent stages in the adoption process	Percentage reporting different sources ($N = 105$)
Awareness-Information	72.4
Information-Application	42.9
Application-Trial	52.4
Trial-Adoption	100.0

different sources for the trial and adoption stages, and even for the pair where least differentiation was made, 43 per cent named different sources or combinations of sources.

TIME SPAN BETWEEN STAGES

A question could be raised about the validity of the stages concept if the farmers stated that they adopted on impulse—that they became aware of antibiotics and adopted immediately, a true unit act. No farmer reported that he adopted in this fashion. Instead, there was an average reported time lag of 1.54 years between awareness and adoption.[6] Even though the time measures are crude, in that dates were recorded only in years and for only three of the stages, Table 2 provides further evidence that adoption is a complex process and that respondents can assign time meaning to the different stages. About three-fourths of the farmers gave different years for the awareness and trial stages, and awareness and adoption. Only a few gave different years for trial and adoption, but the particular practice is one which can easily be tried and adopted in the same year.

TABLE 2. PERCENTAGE OF FARMERS WHO REPORTED A DIFFERENT YEAR FOR EACH OF TWO SPECIFIED STAGES IN THE ADOPTION PROCESS

Stages in the adoption process	Percentage reporting different years for the two stages ($N = 105$)
Awareness-Trial	72.6
Trial-Adoption	13.7
Awareness-Adoption	73.8

CONCLUSION

Though the findings reported are not conclusive, they seem to support the validity of the stages concept. Analysis of similar data for three other practices studied in Iowa—use of a chemical weed spray, preserving food by freezing, and use of new synthetic fabrics — provided further supporting evidence.[7]

[6] Dimit reported an average time lag of 3.7 years between the awareness and adoption stages for ten farm practices. See Robert Dimit, "Diffusion and Adoption of Approved Farm Practices in 11 Counties in Southwest Virginia" (unpublished Ph.D. thesis, Iowa State College, 1954), p. 52.

[7] See George M. Beal, "How Farmers Accept a New Practice: Sources of Information Analyzed by Time," paper presented at the Midwest Sociological Society, April, 1956, at Kansas City, Missouri; or a forthcoming Iowa AES Res. Bull. by Everett M. Rogers and George M. Beal, *Sources of Information and Stages in the Adoption of Farm Practices.*

APPLIED SOCIOLOGY NOTES

INTRODUCTORY RURAL SOCIOLOGY IN TEACHER-EDUCATION INSTITUTIONS

by William McKinley Robinson†

The comments in this paper are based upon the writer's experiences and observations, and upon the suggestions and comments of twenty other persons engaged in furthering the preparation of rural teachers. The objectives of the introductory rural sociology course for teacher-trainees constitute the beginning point for this discussion.

In a rural community, even more than in an urban one, the teacher needs to be aware of the community as an entity, and of its structure and functioning. The rural school is closer to, and more sensitive to, the people it serves. It is a more dynamic and dominant force in the community, partly because there are fewer agencies and organizations for related services, and partly because of the more personal relationships which characterize smaller communities. The rural community is small enough and simple enough in structure—and lay people still feel their power enough in school and community affairs—that rural schools, far more easily than urban ones, can prepare children for the active participation in community life which is so essential to a democracy. The idea of the *community school* or *community-centered school* now in vogue in professional education circles had its beginning in rural areas, and the best and most frequent examples of such schools are in rural areas.

Teachers need to be aware of the strengths and weaknesses of rural life, that they may capitalize upon the former and offset or compensate for the latter insofar as they are related to the school program. They need to see the unique features of rural life and to make the rural school program unique. Rural life should not be merely a way station on the road to urbanization, nor should rural teaching be a stepping stone to an urban position. Rural life should not be measured by urban standards but by total society standards, and a similar comment can be made for rural teaching. The rural school program should utilize the best in our professional understandings and practices insofar as they meet the peculiar needs of rural children, rural schools, and rural communities. One must keep in mind that many of the children will spend their adult lives in urban areas. It is fortunate that many urban dwellers are rural bred, and that the cities can share in the advantages and experiences they have enjoyed in their education.

One need not worry as much as formerly about rural life being a "way station" and rural teaching a "stepping stone." Rural teacher salaries are much better than heretofore — in some spots, even better than nearby urban salaries. Moreover, rural living conditions are much improved. Perhaps more important still, teacher prestige is on the rise. Teachers, like many other people, are finding some advantages in living and working in the less densely settled areas; they, too, are getting "suburbanitis." But the hierarchy of the profession has not yet succumbed; "the bigger the better" is still a dominant concept among them.

Suburbanization, however, is producing another type of problem which the rural sociologist can help solve through participation in teacher preparation. The school in suburban and urban fringe areas is frequently a battleground for the conflicting ideologies and practices of an emerging type of community for which no norms or traditions have been established. In the southwestern Michigan area served by the writer's institution, four types of community most frequently get the better of teachers—even the best and most mature teacher. These are (*1*) the suburban ones, (*2*) those with many migrant laborers, (*3*) those in which an increasing number of people, including mothers of school-age children, are becoming urban or industrial wage earners, (*4*) those in the throes of school-district reorganization. In such communities the points of sharpest conflict fall within the field of rural sociology. There is a need here for research information, both general and on specific problems. There are also problems of policy and "values" that demand solution: What rural values can and should be preserved in our rapidly changing society? Can agricultural and rural-life problems be solved, as some claim, by getting low-income families to leave their farms? Or are the problems too complex for a purely "economic" solution? Are other values involved?

TEXTBOOKS

How appropriate and adequate are our rural sociology textbooks for use with

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teacher trainees? The birth rate, population mobility, the family, and health are topics of primary and obvious interest to the school, and from the teacher-preparation point of view these seem well handled in current textbooks. Religion, social welfare, education and cultural interests are less well handled, and the handling of government is the weakest of all. The present writer's personal explanation for this is that textbook writers have relied too much upon the experts in these specialized fields, rather than upon their own discipline in relation to them. For example, the chapter on education almost always measures the schools in terms of pupil-enrollment standards, set up years ago by an educational administrator whose experiences no doubt had been primarily on the state and national levels, rather than the local or community level. Such persons tend to see the school as an entity in itself, not as an institution of the immediate community.

Some other comments about rural sociology textbooks came from the twenty persons (teachers of rural sociology in teacher preparation institutions) who were questioned by the writer. One thought the textbooks sectional, his particular section of the rural scene being one of those overlooked. His plea was for a more generalized treatment, with guidance for application to the specific. Another felt a need for the rudiments of survey techniques, to be used in giving students field work experience related to their chosen profession. Several criticized the "overabundance of data," one being particularly critical of the predominance of USDA and Census Bureau data. However, another said that one of the most recent books, which otherwise had much appeal for him, was short on data and documentation. The general feeling seemed to be that too many statistics and tables make for slow reading, and for confusion on the part of young, immature students—but that these materials should be shifted to the appendix for use as the instructor wishes, rather than being omitted.

Still another criticism was that while most of the statistics are current, the analysis and interpretation are less up-to-date. The comment was not restricted to revised editions, though they were mentioned. The person felt that authors and students lose contact in the conclusions. Possibly he had in mind an interpretation colored by depression and wars, which are outside the experience of today's students. Another person felt that the books give the impression of amassing facts and statistics that lack functional orientation or a unifying force or purpose. Another felt that we do not yet have a text that is adequate as to world scope, to prepare students for foreign service and to give perspective to the domestic scene.

These comments seem to add up to a plea for a simple, well-organized, inclusive, readable, and understandable textbook designed to orient the college sophomore to the rural community and the role of the teacher in such a community. The book desired is one that uses proper sociological terms and concepts to lay a basis for later reading of sociological materials by the student, but does not use them more than necessary. The ideal implied seems well expressed in this statement from the foreword of a recent book, "The text is written, insofar as it has been possible, in the language of experience. Here and there a little sociological jargon has crept in because there is no other way of precise statement, but in each case the meaning has been made clear by context or explanation."

Unfortunately we cannot say, "Give us such a book and your market is assured." Our colleges and universities are almost wholly urban-centered and urban-dominated. The rural sociologist in the land-grant college may have a hard time maintaining his place in that economics-oriented institution. The rural sociologist in the general sociology department may have difficulty holding a proper place. But those working for rural interests in other professional schools have an even more difficult task. Still, a textbook as here envisaged could mean much to rural America if used in the preparation of rural teachers, ministers, doctors, nurses, hospital administrators, social workers, local government officials, and other similar professional or service employees.

WHAT THEN IS THE RURAL SOCIOLOGIST'S CONTRIBUTION?

In the judgment of the writer and most of those surveyed, the primary contribution of the rural sociologist to the professional preparation of teachers is to give the students an understanding and appreciation of rural people and the rural community. They need to see how the rural community fits into the total scene, and to learn to appreciate rural people for what they are and aspire to be. The rural sociologist can help them understand the place and function of institutions—how they are influenced by rural conditions, how they in turn affect the quality of life in rural areas, and how institutions, organizations, and agencies are interrelated.

In the writer's college, all students who take rural sociology courses later have a period of practice-teaching in a rural school. All practice-teachers are expected to participate in the life of the community where they teach. A selected group, about a third, live in the communities full-time during practice teaching. In preparation for this, each student writes a term paper in his rural sociology course, on his home community. These papers frequently contain the statement, "I never before really saw my community." Experiences like this, as well as other materials to supplement the textbook, should be provided by the instructor.

Aside from the suggestion that the widespread resistance to school district reorganization is suggestive of social reality that should be taken into consideration, the unique contribution of the sociologist to the controversial problem of school consolidation and district reorganization is yet to be made. However, years ago Dwight Sanderson wrote for the New York State Regents' Inquiry that the consolidation movement was in grave danger of making irrevocable errors in relation to community well-being. Yet many reorganizations are effected by desk-bound administrators, by means of coercion (state aid used as an "incentive") and so-called "community surveys."

The rural sociologist can also help meet felt needs of laymen, working in education-related organizations. In a recent brief period the writer received announcements of six conferences on subjects such as low-income families, rural youth, essentials of a good community, and the community and the schools. In some of these rural sociologists will participate, but they are needed in all. The time has come to reach out.

BOOK REVIEWS

Edited by Walter C. McKain, Jr.

Fads and Foibles in Modern Sociology and Related Sciences. By Pitirim A. Sorokin. Chicago: Henry Regnery Company, 1956. Pp. viii + 357. $10.00.

It is a usual experience to be alienated by the cutting edge of Sorokin's criticism—then attracted to return as a moth to the flame, eventually conceding that the author "has something." This book is a bitter and sad exaggeration, but the diseases it names are abroad in the land. They afflict some of their victims acutely and lightly, some chronically and deeply.

If the energy that has gone into rejection and that has widened the chasms between Sorokin and other workers could have gone into corrective encouragement and collaborative enterprise, the net gain for American sociology in recent decades might have been prodigious. Even so, there has been great growth because of Sorokin; he has goaded American sociologists to study and write as they might not have done without the irritants he proffered.

Those of us who are here touched in sensitive spots are not denied the opportunity of counter "carping." For example, Sorokin identifies and attacks "amnesia" (Chapter One) but overlooks what this reviewer proposes to call "the mirage of erudition." He attacks the "discoverer's complex," but takes no notice of another malady—perhaps equally and oppositely heinous—the compulsive citation of the ancients. This is often manifest in footnotes which are a global roll call from antiquity and which one must sometimes doubt would stand the test of bibliographic checking. Yet Sorokin's contempt for the superficiality of the contemporary prestidigitator of data in sociology is to some extent a justifiable counterattack against shallow and aspersive digs at armchair sociologizing. Between these pitfalls lies the path of proper sociological exposition; arithmetic and reflection are both essential to the true scholar.

Some real dilemmas are posed; for example, the presence of "speech disorder" among sociologists must be admitted (Chapter Two). But the problem giving rise to "speech disorder" is the more important worry. The coinage of new terms is born of the need to escape connotations that adhere to old words and befog efforts for precision. Credit is due the attempt of the word-builder, even though the outcome as such is not impressive.

If one reads this book with the self-control maintained in research observation, he must acknowledge a mixture of "bark and bite." For most readers, of course, the temptation to "bite back," occasionally will be irresistible. For example, charges of triviality in the concerns of modern sociologists engender a retaliative commentary on the corner cutting and short-cut inaccuracies of the generality-sweepers. A sweeping generalization forces too many details and specifics into a single channel, and distortion of conclusions is inevitable.

This is illustrated in the *Fads* book by a basic deterministic conclusion that the buzzing army of "negativistic" researchers is caught in the trap of "Sensate" decline (Chapter Thirteen). So, even in the moment of castigation of the sociological peanut vendor, comes the generalization that only peanuts can be produced in these days anyhow: we have to wait for a fluctuation.

The *Fads* book is exceedingly useful, at least as a kind of vaccination which, after secondary reactions accompanied by high fever, may produce immunity among readers who will be unable to avoid exposures.

HOWARD W. BEERS.

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American Families. By Paul C. Glick. New York: John Wiley & Sons, 1957. Pp. xiv + 240. $6.00.

This distinguished addition to the Census Monograph Series (sponsored by the Social Science Research Council and the Bureau of the Census) is by far the most comprehensive source of reliable information on family composition, processes of family formation, and family trends now available. It does great credit to the author's efforts, extending over a number of years, to fashion census definitions and procedures for family statistics that are both operationally feasible and sociologically meaningful. Even specialists in family studies and demography are likely to be surprised at the wealth of illuminating information, accumulated in the last 15 years or so, concerning matters that formerly had to be left almost wholly to conjecture. The reader will appreciate the virtually unique skill that enables the author to combine sample

survey and census data to bring out changes and relationships that easily are missed in a cursory inspection of the statistics. At the same time, he must be mindful of the author's warning, "If the concepts relating to families and households seem numerous and complex, it is because the living arrangements of people are correspondingly varied and complicated."

In ten tersely written chapters the volume covers household and family composition, the life cycle of the family, marriage and the dissolution of marriages, and projections of household and family formation. The eleventh, summary chapter, though appearing at the end of the work, might well be read first by anyone not already familiar with census concepts and techniques of demographic analysis.

Partly because sample data are used extensively, there is no great emphasis in the book on geographic or rural-urban variations in patterns and trends. The monograph, nonetheless, contains a good deal of information of special interest to rural sociologists. There is an excellent bibliography of studies on family statistics, though perhaps not quite so much reference in the text to research based on noncensus sources as one might expect.

Although methodological points are not stressed, the careful reader will note a number of problems on which additional methodological research is needed; many of these concern the difficulty of obtaining suitable approximations to the population exposed to the risk of one or another change in family status. The author could make a further contribution, if he cared to, by writing up some of these problems and expounding the details of the expedients by which they are handled. Unfortunately, it appears that the overwhelming majority of so-called "family sociologists" lack the competence required for this kind of work, whereas too many demographers, at least up to now, have been somewhat indifferent to the special problems posed by family analysis.

The book contains considerable evidence of the author's sensitivity to the needs of business, government, and other practical users of family statistics (e.g., in the extensive presentation of projections of future numbers of families and households) and somewhat less evidence of his appreciation of family statistics as data for testing crucial hypotheses about the role and function of the family in society. No doubt the discrepancy here is as much a shortcoming of the academic profession as of the author. Perhaps the current preoccupation with "interpersonal competence," "rating and dating complexes," and the like, will give way, to some small degree, to a renewed effort to understand the interrelations of family trends and social change. At any rate, such will be the effect, if Glick's volume is given the attention it deserves.

OTIS DUDLEY DUNCAN.

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American Housing and Its Use. By Louis Winnick. New York: John Wiley & Sons, Inc., 1957. Pp. ix + 143. $5.50.

This is another timely and important volume in the Census Monograph Series sponsored by the Bureau of Census and the Social Science Research Council. The purpose of the author was to make an economic analysis of the relationship between housing and population characteristics, as of 1950. His careful and imaginative analysis of urban and rural-nonfarm census data, shored up by numerous supplementary sources, results in a refreshing and instructive treatment of the subject of housing. It should be highly useful to housing academicians, governmental agencies, and planners and builders of housing.

Following a short summary are four penetrating chapters which examine the extent to which income, size of household, value and rent, and location and race influence person-per-room ratio. The remaining two chapters analyze trends in size of dwelling units and households. Five appendices include methodological explanations and numerous supplementary tables.

Highlights of the book include the following: The person-per-room ratio, a concept underlying much of the analysis, over the years has undergone a modest improvement. This runs counter to the notion that American families are increasingly being squeezed space-wise. This improvement, Winnick finds, is due to the fact that size of households has declined more rapidly than space has declined.

The following quotation will surprise many and irritate some: "The overwhelming majority of American households are adequately provided with housing space; five-sixths of the households have at least one room for every person, and one-third have at least two rooms per person" (p. 21).

Income is found to be somewhat less important as a determinant of space than one might have suspected. "The distribution of housing space in 1950 was remarkably even, far more so than the distribution of income and probably more equal than is

the case of any other major economic asset" (p. 8). Again, "It is indeed surprising that Social Security, more pensions, and general economic improvement have had, thus far, so little effect on the housing arrangements of the aged" (p. 9). Finally, "The people with the lowest incomes have surprisingly good density standards, and the relationship between the density and income is not as strong or as straightforward as is often believed" (pp. 24-25).

There are also important findings in terms of *PPR* ratios with respect to locational and racial factors. Density ratios are as favorable in the big cities as in small ones, and often are more favorable than for rural-nonfarm residences. *PPR* ratios are lowest in the Northeast and highest in the South and the West. The *PPR*-housing index for Negroes did not improve as much in 1940-1950 as did that of whites; however, home ownership increased much faster among Negroes than whites.

The book has no serious limitations when viewed in terms of the author's purpose and available data. But this analysis should be complemented by a comprehensive study of the qualitative aspects of housing. No one, certainly not the author, would claim that the *PPR* ratio is the final measure of housing adequacy. The whole question of quality of space, its arrangement, how it is equipped, and how it is used (literally) by individuals and families needs to come under the penetrating analysis of competent researchers.

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The New Revolution in the Cotton Economy. By James H. Street. Chapel Hill: University of North Carolina Press, 1957. Pp. xvi + 294. $5.00.

Sociologists will be especially interested in this book because the approach is that of a sociologist. The author, however, classifies himself as an institutional economist. Judging from this book, an institutional economist is one who has discovered the power of folkways, mores, and established institutions to dominate group life for an extended period of time. This approach is particularly well suited to an analysis of the impact of mechanization on the complex of institutions that developed around cotton culture in the South. The author's objective is aptly stated in the introduction as "to deal with the process of cotton mechanization in its total setting."

The term "new" revolution presupposes an "old" revolution. The author points to revolution number one as produced by the invention of the cotton gin. This brought cotton clothing into the reach of low-income groups, and production of cotton spread rapidly over the world. In the United States, the belief became established that slave labor was necessary in order to meet low labor costs in other areas. A "colonial" system of labor exploitation ensued.

Revolution number two is transpiring from development of tractors and of mechanical harvesting and chopping equipment. It is making the cheap labor system unnecessary; and exploitation, child labor, and other aspects of that system may be expected to disappear. A new economy is developing in which cotton will be on an equal basis with other crops, in that improved technology rather than low wages will be the basis for efficiency and low costs.

The author argues that it was the social and economic institutions rather than technical difficulties that delayed progress toward complete mechanization in the South. It was in the West and Southwest, where institutional pressures were less strong, that mechanical methods were developed. He points out that the old institutional structure in the South must disappear because it is too unwieldy to be adjustable to new economic situations. World trade conditions and the development of substitutes for cotton call for flexibility in production patterns which cannot be attained under the sharecropper system.

The task of delimiting the social accompaniments of the new revolution proves to be complex. The author presents evidence that the rapid movement of population from the South is a broad response to better economic opportunities elsewhere rather than a result largely of mechanization. On the other hand, he finds that mechanization cannot be traced directly to the population exodus and shortage of labor. He stresses the social-psychological factors in these changes. He finds that some farmers mechanized, even though they expected it to increase their costs. Mechanization raises the status of the individual in the community and also frees him from chronic worry about an uncertain labor supply.

This closely reasoned, highly factual book attests to five years of industry and thorough scholarship. If the reader feels inclined at times to quarrel with some aspects of the analysis—e.g., the relationship between mechanization and population movement—he must be well prepared to defend his reasoning. All statements in

the book are amply documented, and there are 30 pages of bibliography.

WILLIAM H. METZLER.

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U. S. Department of Agriculture.

Farm Trouble. By Lauren Soth. Princeton, N. J.: Princeton University Press, 1957. Pp. vii + 221. $3.75.

This book is for economists, sociologists, politicians, farm leaders, and urban people who want to understand the farm problem and some of the things that can be done about it. In 1955, all the old problems of surpluses and low prices still exist. Food production will increase faster than population, at least until 1965.

Farming is a low-income industry; people have always moved out of agriculture. Getting people out of farming is a major task, but it alone does not do away with the possibility of continued overproduction.

In agriculture, free competition among small producers prevails. Agriculture is a weak commercial industry because of the relatively fixed demand for food which penalizes overproduction. So we have the paradox of bountiful production and resulting low income for the producers of the bounty. One conclusion may be surely drawn: price supports have not been an effective method of dealing with the long-run tendency of farm production to grow faster than demand.

Farm policy has had to do with higher income farmers mostly. Farm policy should be made with people in mind, not just crops and acres. America has a serious problem of rural poverty on its hands, but it is not one that will be helped by generalized programs to raise prices or adjust production. Barriers to progress for these farmers are found in lack of education and poor schools; lack of capital and poor credit facilities; lack of technical know-how and poor communication; lack of opportunity and knowledge for nonfarm employment.

The simplest and most direct way of bringing farm incomes in line with nonfarm incomes would be to pay farm people an outright subsidy. Direct subsidies to farmers can be made in return for some kind of desired performance by farmers. This line of reasoning is behind the so-called "soil bank" plan passed by Congress in 1956. A federal payment of this character ought to be coupled with a corresponding payment program for farm families who want to leave agriculture and get established in urban occupations.

Another way to protect farm income would be to subsidize the consumption of food.

Foreign trade is important to farmers. "Agriculture is divided on foreign trade policy." Moreover, the price support and acreage control programs on basic crops have been in direct conflict with freer foreign trade policy. The hard truth remains —America must import more if she wants to export more.

As for the soil, the world may be running out of soil resources, but the United States is not. Projects which bring more land into production cannot be justified in a time of farm surpluses.

Americans want farming to be a healthy industry and a satisfactory way of life. But Americans do not want to adopt rigid government controls aimed at achieving this equality if these should mean sacrificing the initiative, the independence, and the freedom of the farm family.

The value and importance of this book is inversely related to its size.

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A Dutch Community. By I. Gadourek. Leiden, Holland: H. E. Stenfert Kroese N.V., 1956. Pp. xvi + 555. No price given.

It is difficult to review a book that proceeds along such diverse lines of thought as the present one. The author is of Czech origin, but he is doing research in Holland. His book deals with historical-geographical, economic, sociological, social-psychological, and analytic philosophical facts; and he makes ethical judgments for establishing action programs.

The author's working hypothesis is too general; an American sociologist would hardly approve it as the basis of a field research project: " . . . the general working hypothesis underlying our study [is]," he writes, "namely that the existential situation and the social and cultural pattern influence the individual's attitudes and general outlook." A footnote on the same page (428) adds: "in addition, of course to possible constitutional or immanent psychical causes."

The generality of the author's frame of reference probably explains his peculiar hesitancy in determining variables for investigation. It also explains the range of thought from a primitive Baconian listing to sophisticated statements of analytical philosophy. But no refinement of separate categories will help unless the frame of

reference contains a built-in selection-rejection standard for choosing variables for a specific piece of research. As a matter of fact, to limit a study and still remain open for perception of data not originally considered is the most difficult (and stimulating) part of field research. But new categories of data must meet tests of relevancy for a limited frame of reference and not simply be thrown in because it might be wrong to throw them out.

Because, then, of the sweeping hypothesis, and perhaps because of a lack of familiarity with previous community studies, the author fails just where he should have contributed: There is no empirical testing of testable hypotheses. His bibliography consists almost entirely of American sociological literature, yet there is a curious omission from that literature. Except for *Middletown*, there is not a single American community study listed. He lost a chance to sharpen his thinking, to derive new hypotheses for testing, and to avoid catching the same old fish all over again. American sociology is not just method, as Gadourek seems to believe.

The shortcomings of the present book may be indicative of a broader problem of concern to American sociologists. A refugee friend of the reviewer has suggested that European scholars simply do not have access to American empirical studies of communities, churches, schools, groups, industries, and other social groups or systems which enrich the discipline. A committee of American sociologists might well review the holdings of European university libraries, to see if the addition of such literature may not be the thing most needed. If American sociological scholarship dominates the scene in Europe, a sense of responsibility and professional courtesy on the part of American sociologists would require at least such an investigation. For if the monographs could not be assembled for shipment abroad, a caveat to European researchers might insure better use of journals and publications to which they do have access.

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Technical Cooperation In Latin-American Agriculture. By Arthur T. Mosher. Chicago: University of Chicago Press, 1957. Pp. xi + 449. $6.00.

This publication is the second in a series of book-length monographs growing out of the Ford-financed National Planning Association Project on Technical Cooperation. The NPA concentrated on the Latin-American area because technical cooperation programs have been under way longer there than elsewhere and, until recently, on a larger scale.

The book is divided into five major divisions, including: "The Problem" (definition, setting, history, and objectives of the report), "Case Studies" (in Peru, Haiti, Mexico, Cuba, Brazil, Ecuador, and regional programs), "Analysis and Conclusions" (for agricultural development, achievements and role of technical cooperation, and relation to national policies and programs), "Toward Improving Technical Cooperation" (choices, adjustment to country needs, administration, and staffing), and finally "Over-all Assessment."

The result of excellent staffing, intensive surveys, and careful reviews of preliminary findings by means of group meetings with top officials in the field is a report literally chock-full of valuable findings, advice, and insights which any person working in the field of technical cooperation in agriculture must study carefully. It is also a must for those social scientists specializing in the Latin-American area, and others with a strong professional interest in underdeveloped areas.

The author obviously was faced with an enormously difficult task in trying to condense, yet preserve, all the major relevant facts of an extremely complex subject, with variations according to each country and inherent in such different administering agencies as the Rockefeller Foundation, the Food and Agricultural Organization, the Institute of Inter-American Affairs, the Organization of American States, and the American International Association. This will be uneven reading for the nonspecialists engaged in shaping public opinion, who wish to get quickly at the highlights of the problems and suggested solutions to technical cooperation in the field of agriculture. For these persons and the more general public, the NPA has put out a smaller pamphlet summarizing the major preliminary findings of the combined studies. Such persons could supplement the knowledge gained from the pamphlet by reading only the last two parts of the present report.

A few highlights indicated by the author are: the lack of training in extension methods at schools of agriculture in Latin America; the uniformly unsuccessful example of demonstration farms when used as an extension technique; the success of local agricultural research findings applied rapidly in practice—as witness the Mexicans' and

the Rockefellers' accomplishments in improving production of a few basic food crops; the success of nonpolitical foundations and international agencies; the need for land reform to eliminate unproductive semifeudalism—but in coordination with a thorough program of supervised credit and extension; the problems of administrative and policy instability in Washington as a greater problem today than the perennial political instability in many Latin-American countries; and the over-all success of the United States Point-4 program in Latin-American agriculture.

Summarizing this book, the author recommends an increase of 10 per cent in the technical cooperation budget in this field each year for the next 10 years, the continuous training of young local staffs, and the growth of local institutions—decentralized but coordinated—to provide the "self-generative resources" within a national attitude of self-help and belief in progress that is necessary for the long pull.

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Population Theory and Policy: Selected Readings. Edited by Joseph J. Spengler and Otis Dudley Duncan. Glencoe, Ill.: The Free Press, 1956. Pp. x + 522. $7.50.

In the editors' words, this volume is composed of "readings which treat primarily of the implications of demographic phenomena for social structure and for socio-economic change and welfare, or which are concerned with development and application of 'population theory' and with policy aspects of population movements" (p. ix). Few of the readings are reports of empirical studies, since the companion volume, *Demographic Analysis: Selected Readings*, is for the purpose of presenting the work of the research demographers.

There are several features of the volume under review which will interest students of rural society. First, the book is outstanding in the presentation of hypotheses concerning the relationships between demographic phenomena and various social and cultural variables. These relationships are discussed both in terms of social structure and of social change. The book does not suffer from an overemphasis on economic causes and consequences. Many of the readings could well be included in any book on sociological theory.

The demographic variable is more often population growth than its component parts, fertility and migration. This is perhaps more fortunate for rural sociologists primarily interested in underdeveloped countries than for those restricting their work to continental United States.

The editors do not attempt to integrate the book into a single theory. For example, Ogburn tentatively concludes that population pressure is not related to level of living, while other contributors assume that the relationship is high. This feature has the important function of making clear the fundamental problems for research on the relationship between demographic and socio-cultural phenomena.

In the reviewer's opinion, this book is well worth the time of rural sociologists, whether or not they are particularly interested in demography. The volume also would serve as a textbook for courses in population offered to advanced students.

CHARLES E. RAMSEY.

Department of Rural Sociology,
Cornell University.

Demographic Analysis: Selected Readings. Edited by Joseph J. Spengler and Otis Dudley Duncan. Glencoe, Ill.: The Free Press, 1956. Pp. xiii + 819. $9.50.

When you come to think of it, it is surprising that a reader in population studies has not appeared long before this time, in view of the lack of an American journal of demography and the consequent scattering of demographic papers among many journals in allied fields. *Demographic Analysis* is a welcome companionpiece to Spengler and Duncan's *Population Theory and Policy*.

This is not a book of methodology, as the title might imply to some, but contains many examples of good methodological procedure. It is a collection of 63 analytical papers under the rubrics of world population, mortality, fertility and nuptiality, international migration, internal migration and distribution, population composition and utilization of human resources, and selected regional studies. A very brief introduction precedes each section. Fifty-one of the articles first appeared in the past ten years; the earliest appeared in 1930. All were published in English, although at least nine were written by foreign scholars.

The reader is designed as an academic text or as a supplementary source book. It should serve the latter purpose most admirably. In the opinion of the reviewer, this volume is of greater interest and usefulness than was *Population Theory and Policy*, which seemed directed to a more advanced and much smaller audience. Among the

reviewer's favorite papers that are included are: "Pitfalls in Population Forecasts and Projections," by Harold Dorn; "Empirical Mathematical Rules Concerning the Distribution and Equilibrium of Population," by John Q. Stewart; and "The Process of Urbanization," by Hope Tisdale Eldridge.

Five of the studies are impaired in usefulness, in some degree, by the fact that they reach conclusions based either on prewar conceptions of the future course of American fertility or on the authors' failure to perceive the new direction in fertility after it had begun. This was a rather catholic error a few years ago, of course. But it is hard to understand the inclusion of a paper that was as flatly wrong in its predictions as Philip Hauser's "The Impact of War on Population and Vital Phenomena," unless it is offered as an example of how difficult the path of demographic prediction is, even for the best demographers.

Curiously, neither of the Spengler and Duncan readers has a paper by the most honored and prolific of all contemporary American demographers, Warren S. Thompson.

One paper is reprinted from this journal (*Rural Sociology*), "Literacy and Social Change in Underdeveloped Countries," by Hilda Hertz Golden.

The articles are reproduced by photo-offset method from the original printings. This ingenious procedure is quite successful and undisturbing except in two or three instances where reduction in size has resulted in very fine print. The book is a big one. But, in view of the money saving method of reproduction employed, it is disheartening to find a $9.50 price tag.

CALVIN L. BEALE.

Agricultural Marketing Service,
U. S. Department of Agriculture.

Advancing the Smaller Local Church. By W. Curry Mavis. Winona Lake, Ind.: Light and Life Press, 1957. Pp. 179. $3.00.

Since most books in the field of practical theology are written by those considered "successful" pastors, past or present—and usually written from the viewpoint of the larger church, a book that has the smaller church viewpoint is unique. While the great majority of smaller churches are rural, the author does not deal in this book with problems arising from rural location, but considers size only. By "smaller," Mavis means churches with a Sunday-morning *attendance* of fewer than 150—participation, rather than number on the roll, being his criterion for consideration.

He begins with a discussion of the significance of small religious groups, then tells of certain advantages they have in fostering Christian growth through fellowship, participation, and service. Because they struggle for survival, smaller churches often feel inferior. As a result they tend to substitute piety for Christian action, and to emphasize "perfecting the saints" to the neglect of the redemptive function in society. Among the severe problems of smaller churches, the author lists the small number of participants, lack of facilities, difficulties arising out of interpersonal relations, and problems of morale.

Sociologists will be particularly interested in the first four chapters, which discuss the significance of small religious groups, the advantages of smaller churches, their tendency toward introversion, and their problems of morale.

This is primarily a "how-to-do-it" book. There are chapters on various areas of church work—surveying the needs, training workers, organizing and setting up a program, finance, publicity, pastoral work, worship, and Christian education. Even before coming to the final chapter on evangelism, this reviewer felt that evangelism had been put at the center of the life of the smaller church. It was, therefore, not surprising to find near the end the author's view that evangelism is the *elan vital* of the smaller church, and that "all the emphases of this book are related to evangelism, and the growth of the smaller local church" (p. 179).

Mavis writes from a background as pastor and superintendent of churches. He is at present dean of John Wesley Seminary Foundation and professor of Pastoral Work, at Asbury Theological Seminary.

EDWARD D. HAMNER.

Phillips University,
Enid, Oklahoma.

The Compleat Strategyst. By J. D. Williams. New York, Toronto, London: McGraw-Hill Book Co., Inc., 1954. Pp. xiii + 217 + Appendix. $4.75.

Any social scientist who has read *Introduction to the Theory of Games*, by J. C. C. McKinsey, or *Theory of Games and Statistical Decision*, by Blackwell and Gershick, will appreciate the formidable task faced by J. D. Williams in producing a primer of the Theory of Games. In a very light vein, he has tackled this problem and completed it successfully. Much of this success is due to his ability to tread gently over debat-

able points, avoid completely the too difficult ones, and select examples appropriate to the specific issue at hand.

The principal topic of the book is how Game Theory operates, three quarters of its total length being given to rules for the solution of game matrices of different dimensions. These are all presented as "rules of thumb," since the discussion is confined to elementary arithmetic and within these limitations is completely straightforward.

In the opening chapter, the author points out some conceptual difficulties inherent in transferring data from the real world to this abstract form. The theory assumes that the "sensible object of the player is to gain as much from the game (any conflict situation) as he can, safely, in the face of a skillful opponent who is pursuing an antithetical goal." This assumption raises a number of measurement problems of particular importance to social scientists but not fully treated here; for, as Williams says, "the process of abstraction and modelmaking by which we go from the real world to the game matrix may require a deep knowledge of the subject matter, much mathematical versatility, some ingenuity, and occasional late hours."

In the final chapter, while concerned primarily with the extension of methods of matrix solution, the author points up the relatively slight effect of measurement errors on the value of the game and the choice of strategies, once a single measurement scale can be applied to the situation. This diminution of the effect of measurement error, however, does not meet the problem often encountered when the measurement units used by different parties are not identical, a not-unusual situation in social conflict situations.

In spite of the indicated weaknesses, the theory appears to be a very promising approach to certain types of problems and is highly recommended to all engaged in research on human interaction. Williams has written simply enough to meet one of his minor objectives, the presentation of the rudiments of the Theory of Games in order to increase the number of persons who are sufficiently conversant with its techniques to suggest applications to specific problems of human behavior.

Williams is one of the rare breed who can take basically abstruse material and treat it lightly. Despite the complexity of the material, the book makes delightful reading. One is left with the impression that the author thoroughly enjoyed writing it and has amused himself by teasing an assortment of colleagues in his examples.

OWEN B. DURGIN.

Department of Agricultural Economics, University of New Hampshire.

Technology and Social Change. By Francis R. Allen, Hornell Hart, Delbert C. Miller, William F. Ogburn, and Meyer F. Nimkoff. New York: Appleton-Century-Crofts, Inc., 1957. Pp. xii + 529. $7.00.

This book combines the theories of social change of two early writers in the field with the contributions of three other authors who have studied the impact of technological change in certain areas. Ogburn introduces the work with a condensed version of his principles of social change, including the concepts of "cultural lag," "derivative effects," and others. Hornell Hart follows with a discourse on "acceleration in social change." Starting with a discussion of "a million years of acceleration in cutting-tool efficiency," he proceeds with illustrations in acceleration of many types to conclude with acceleration as applied to war deaths. As in his earlier writings, Hart is intrigued with statistical models of change. There are numerous charts and tables showing trends and rates of increase in technology and how these conform to "logistic trends."

Delbert Miller discusses the theories of social change and concludes that "a general theory of the processes of change of social systems is not possible in the present state of knowledge" (p. 102). As he states, "Many of the theories of social change have been born from social philosophy rather than from social research" (p. 74). That new theories of change have been developed, based upon the testing of limited hypotheses, is difficult to find in this collection of writings. However, Miller's account of motion pictures, radio, and television as agents of change is based upon considerable research. This is less true for the accounts of the automobile, aviation, and atomic energy.

Part III is concerned with the impact of technology upon social institutions. While this section consists primarily of historical and descriptive accounts of the influence of technology upon industry, communication and transportation, the family, agriculture, war, and medicine, the student as well as the layman will find much of interest to him. The suggested relationships are based primarily upon observation of the course

of events rather than upon hypothesis-testing research.

The last five chapters of the book are concerned with social problems, planning, and adjustment to rapid social change. The reader is made to feel that there is an impending crisis due to the rapid changes in technology, which can be prevented only by speeding up the means of harnessing these forces for human good. In attempting to suggest how this can be done, Hart looks for forces which require revision of the "cultural lag" hypothesis.

What seems to be missing in this treatise on technology and social change is some theory as to the direction of change. Certainly the evolutionary, cyclical, and crisis theories of change are inadequate; and the authors' earnest attempt to seek evidence of how technology aids human happiness in certain areas while destroying it in others does little to fill this gap. Sociologists might well draw on biology and the other social sciences to develop more adequate theories as to the processes of change and the direction of those processes. Instead of being awed by the tremendous physical gains in technology, perhaps we should be more concerned with the functions which technology performs and its consequences for the satisfactions of the individual and for the structure and culture of both small and large groups. Few researches have been oriented in this direction.

EUGENE A. WILKENING.

Department of Rural Sociology,
University of Wisconsin.

American Roots in an Italian Village. By Carle C. Zimmerman. Rome, Italy: Estratto da Genus, 1955. Vol. XI, No. 1-4. No price given.

This short monograph, one of a series, appears to be of great seminal value. It is the kind of study too long neglected; it is needed both for its general and its particular aspects, both for its possible contribution to the corpus of sociological theory and for its additions to the mass of empirical facts which theory must embrace. The general type of study is that of the movement of peoples among the subcultures of Western civilization. The particular monograph is a before-and-after study of *specified* Italian villagers as they migrated from Italy to the United States.

This little study shows Zimmerman as a field research man at his best. He has the novelist's eye for seeing the significance of the small detail. He relates these villagers to Western civilization, and to pre-Roman, Roman, and medieval history. He cites their "greats" such as Thomas Aquinas. But he also points out that the children play marbles. His is the kind of detail that contributes to rapid understanding of a group.

As a good field man, Zimmerman examines thoroughly the most neglected source of information in contemporary community studies—local, provincial, and national records. He quantifies where possible. He does not try to force data, thus avoiding the situation where data become such a function of the instrument that instrument and data cannot be separated.

Since this report is primarily the "before" part of the study, no general conclusions are stated. One statement will arouse controversy. That statement concerns the sociological significance of inbred lines of genetic strains in this village.

In American sociology, after the social and intellectual horrors of the Fascists and Nazis—and because of the movement away from considering biological fact as of any consequence to sociological theory—there is little or no consideration of such problems. This reviewer feels that, sociologically, a disregard for such issues is justified. But sociology had better have people about who are not satisfied with prevailing answers. Zimmerman isn't.

One may add that Zimmerman, like his whole generation of sociologists, has concentrated on social change. But the material and thinking in this monograph show a shift in emphasis: Both persistence and change are carefully and explicitly studied. Sociologists, this reviewer feels, will have to develop processual theories dealing with both phases of social reality. This series may represent the beginning of an earnest effort to develop such theories.

RICHARD E. DUWORS.

Department of Sociology,
Bucknell University.

The Negro Population of Chicago. By Otis Dudley Duncan and Beverly Duncan. Chicago: University of Chicago Press, 1957. Pp. xxiv + 367. $6.00.

This volume represents a compilation and interpretation of obtainable demographic data concerning the Negro population of Chicago. The problems created by great migrations of Negroes to urban centers of the North have commanded much interest and attention. These great migrations, though retarded during the depression '30's, have continued up to the present time. Between 1940 and 1950, the nonwhite population more than doubled in thirty of the

metropolitan areas of the United States. Only one of these areas was in the South, the traditional home of the Negro population. The nonwhite population of the metropolitan area of Chicago numbered 335,000 in 1940. By 1950, the count had risen to 605,000, an increase of 80.8 per cent.

A major portion of the book is devoted to the structure and development of the contemporary urban community. The authors thoroughly analyze the succession from non-Negro to Negro occupancy of residential areas.

The sequence or abstract conception used by the authors to show the stages of succession include: (*1*) *penetration* by Negroes of an area formerly inhabited exclusively by whites, (*2*) *invasion* where the number and proportion of Negroes have become significantly great, (*3*) *consolidation* when further increases in the Negro population occurs, accompanied by decreases in the white population, (*4*) *piling up* when, after complete occupancy by Negroes, the population continues to increase so that finally there is an over-all increase in gross and net population density.

Areas inhabited by significant proportions of Negroes tended to increase their Negro proportions. The authors found no major parts of the city which once contained substantial Negro settlements that are now inhabited solely by whites. Although there were exceptions, the evidence supports the proposition that Negroes who led in the early stages of succession were not newcomers to Chicago. It appears that because of intensification of competition for living space following invasion, the invading population must pay higher rents in a given area than would have prevailed in the absence of invasion. With reference to the stability of area characteristics, the authors ventured the suggestion that "areas in which one or another kind of social problem is localized at a given time are likely to retain such a problematic character for a period of years, even if, in the meantime, the population in the areas has undergone considerable turnover."

Discussions and actions concerning the "race problem" in metropolitan areas in recent years have all too frequently been based on conjecture and speculation. The authors are to be commended for a painstaking collection and critical analysis of available data concerning the Negro population of Chicago.

The authors limited the scope of the study "to avoid fallacies of the 'illustrative method' that mar many discussions of the Negro problems." The omission of case studies coupled with the presentation of a great mass of demographic data will serve, in the reviewer's opinion, to curtail the number of readers of the volume. The individual who attempts a casual reading of the book will be disappointed. It requires careful study.

The authors, undoubtedly, had these characteristics in mind because a most significant innovation is found in Chapter I. This chapter is entitled "Introduction and Summary of Main Findings."

The book should serve as a methodological example worthy of note and should also be of general interest to those interested in demography, human ecology, and race relations.

BARDIN H. NELSON.

Department of Agricultural Economics & Sociology,
Texas A. and M. College.

Intelligence in the United States. By John B. Miner. New York: Springer Publishing Co., Inc., 1957. Pp. xii + 180. $4.25.

This study of intelligence testing and the concept of intelligence, appearing at a time when the validity of existing standards is being challenged, is a substantial contribution to the field. The author's theory of intelligence postulates that native intelligence depends for its development on the availability of learning opportunities and on individual motivation.

The theory is employed in a nationwide survey of a 1,500-person representative sample of the United States population. An original intelligence test, based on vocabulary, was devised and administered to this group. Tests of association were made between intelligence scores and sex, marital status, age, race, occupation, geographical area, religion, social class, and city size. Of these variables, social class was most strikingly associated with test scores.

Perhaps the most original and helpful contribution of this study—initially written as a doctoral dissertation—is the analysis of the extent to which intellectual resources are being wasted in this country. Such wastage was examined in terms of occupation and educational systems. Suggestions for full use of these resources are made throughout the book. This analysis should be useful, especially to labor managers, as well as to researchers in the "talent loss" field.

JOHN R. CHRISTIANSEN.

Brigham Young University,
Provo, Utah.

Society and Culture. By Francis E. Merrill, assisted by H. Wentworth Eldredge. (Revision of 1st ed., 1952, *Culture and Society.*) Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957. Pp. xiii + 592. $6.75.

This book represents a rather thorough revision and enrichment of the first edition, issued in 1952. The words in the title were reversed—from *Culture and Society* to *Society and Culture*—because the authors have tried to make the treatment more sociological and less anthropological and historical. Hence, the book is built around the basic concepts of social interaction, culture, and personality, along with the additional concepts of social structure, social institutions, and social change. The treatment of such topics as small groups, social stratification, social mobility, and mass communication has been expanded. In the making of these revisions, the number of chapters has been *reduced* from 29 to 25.

In its present edition, the book is now unmistakably an introduction to general sociology, based primarily on the research findings of recent years in the fields of sociology, social psychology, and anthropology. With few exceptions, the older sociologists are seldom quoted. Recent research materials are used extensively. Research materials from the rural field, however, tend to be either ignored or purposely left for the rural sociologists to develop.

To the general sociologist, this book should prove to be both attractive and useful. Its excellent organization, its reliance upon recent research findings, and its simplicity and clarity of expression would seem to place it very high among introductory texts. This reviewer can strongly recommend it as a supplementary general text for courses in rural sociology.

CHARLES E. LIVELY.

Department of Rural Sociology,
University of Missouri.

The Community of the Future and the Future of Community. By Arthur E. Morgan. Yellow Springs, Ohio: Community Service, Inc., 1957. Pp. vi + 166. $3.00.

The most difficult task in evaluating this book consisted of finding a suitable standard of evaluation. By Morgan's own admission (p. 5), the work is neither scholarly nor well organized. As a sociological treatise, it is sadly wanting. Nor is it properly community planning, for Morgan is interested more in the community of the future than how to achieve it. Most of the book can be described as an exhortation to realize the hopes of its author. The evaluative criteria finally selected, perhaps arbitrarily, were factual accuracy and clarity of conceptualization.

The author's primary goal is to develop a synthesis of the small community from the best elements in social life. The small community is accordingly regarded as important, and both the evolution of social controls and the dominant causes of cultural decline are used to buttress this claim. The community of the future then becomes the dominant theme. It will be first a balance of localistic and cosmopolitan influences. The physical setting will not be neglected; government is to be essentially democratic; industry will emphasize self-sufficiency, capitalism, and social responsibility of owners; and education will provide the foundation. Religion is to be sought individually. Such communities are to be achieved through creation of "intentional" communities rather than by revolution or modification.

Whatever Morgan offers that may be of worth is often rendered suspect by his practice of repeatedly inserting obviously questionable statements. The following (p. 5) is probably the worst [author's parentheses]: "(Incidentally, Eskimos have substantially larger brains than we of European stock. Perhaps that is why they can hold in a single synthesis elements that many people consider to be mutually exclusive!)." One more example must suffice: " . . . since men have had cattle for a much longer period than they have raised crops, many more gentleman farmers take pleasure in cattle raising than in raising wheat or corn" (pp. 134-135).

Because Morgan is most interested in the future *good* community, value judgments become central to his work. Even here, there is no apparent contribution. For example, one cause of cultural decline is listed as "decline of personal character" (p. 44). What, first, *is* personal character, and how, second, does it decline *or* rise? The judgments are culturally myopic—what is "good" is what Morgan thinks is good, and if Morgan cannot think so, then personal character has declined. (Pp. 45-47.)

But even should one have Morgan's unquestioning faith in the content of the good community, how is he to reach such goals? Morgan's attempt at answers is grossly inadequate and therefore worse than nothing. For instance, he states, "Then, through the operation of insight, judgment and purpose the more productive associations will be encouraged, and the more destructive

ones discouraged. Such a course seems to promise the best type of society" (p. 69). Such a "course" is no course at all. Here, as elsewhere, he confuses "ought" and "will be."

There is an instructive aspect in Morgan's book. Sociologists need to be reminded that if they do not give their work some value-direction, others will.

GEORGE A. HILLERY, JR.

Department of Sociology and Anthropology, College of William and Mary.

To the Book Review Editor,
Rural Sociology:

I should like to make a few comments upon Arthur E. Morgan's *The Community of the Future and the Future of Community*, in view of the somewhat adverse review of it by George A. Hillery, Jr. Otherwise I feel the book might not get the appreciation and use it deserves among rural and other sociologists.

I do not think we should discard this work because of incidental remarks like that about the brain size of the Eskimos. I interpret this and other remarks as attempts by the author to write "lightly." Nor would I summarily reject the book because of the use of other untechnical language. Toynbee points out that cultural decline appears to him to be associated with the rise of the internal proletariat (and an ensuing disjuncture of the social classes), and Morgan calls it "the decline of personal character." I do not believe this variant use of terminology harms the fundamental soundness of the book.

Morgan notes that much (a great deal uninspired) has been written about the community during the past fifty years, but as yet we have no fitting analysis which uncovers "the fate of the community in our rapidly changing society." In his book he seeks to give this. He does not expect any nostalgic return to the farm, nor does he bewail the end of the peasant village with Spenglerian pessimism. Rather, he points out the inevitability of needs for both localism and cosmopolitanism in the life of modern man, and the fact that moderns are seeking both; he then blueprints some of the more successful methods being used for localistic reconvergence.

I believe the book is exceedingly valuable as a text on the community and as a rounded interpretation of the now-developing ecology of modern industrial societies. The rearrangements of the population in the United States—as well as that of other Western countries with high industrialization, such as Germany and England—bear this out. People are moving out from the crowds as much as possible. Each new main highway to the hinterlands is quickly bracketed by small factories, and each of these has its localistic community and housing development. This new pattern of life —different from the mass cities of "lonely crowds"—is growing apace. Morgan merely wants to help plan it according to the successes he has observed.

I think all this specious quarrel about value terminology is in a large sense a fashion and not a necessity for, nor a foreboding of, any increased growth of scientific knowledge. Let us ask, Why do we write books on sociology? One plausible answer often given is that it is to create verifiable scientific knowledge of human society. But that is not an answer. Rather, it is merely a statement of *what* we seek to put in books, not *why* we write them. We write them for some other purpose or purposes.

Now Morgan is an old hand not only at community studies but also in these elementary metaphysical problems. He disregards such quibblings as these and moves on to the greater scene. He sees what the Tennessee Valley Authority, which was primarily his creation, did for the peasant there. Now he wants to tell this story for the benefit of the peasant in all of us.

As of today, the rural sociologist is a man of the world. Pick his pocket at random and you will most likely get a much-stamped passport. Most of the profession are constantly being called to other lands for direction and advice upon the development of the localistic community. There are not enough of us, and the professional corps has had to spread very thinly indeed. Morgan's work, in the opinion of this commentator, will help us and others very much indeed.

Scholars abroad are very critical of this developing fashion of pseudo-science in our sociology here. These men who have degrees from, and teach in, the famous universities of the older world are not entirely wrong about our lack of metaphysical balance in the United States. In the opinion of this commentator, Morgan's book, though written in homely fashion—but with undercurrents of extreme sophistication—is one for which we will not have to apologize.

/s/ CARLE C. ZIMMERMAN.

Department of Social Relations, Harvard University.

BOOKS RECEIVED

An Introduction to Social Science. By A. Naftalin, B. N. Nelson, M. Q. Sibley, D. W. Calhoun, A. G. Papandreou. New York: J. B. Lippincott Co., 1953. Pp. xvii + 372. $6.50.

The Child and His Welfare. By Hazel Fredericksen. San Francisco, Calif.: W. H. Freeman & Co., 1957. Pp. x + 364. $5.00.

Crisis in Higher Education. By Charles P. Hogarth. Washington, D. C.: Public Affairs Press, 1957. Pp. vi + 60. $1.00.

Family Development. By Evelyn Millis Duvall. New York: J. B. Lippincott Co., 1957. Pp. vii + 533. No price given.

Family and Neighborhood: Two Studies in Oxford. By J. M. Mogey. New York: Oxford University Press, 1956. Pp. xvi + 181. $4.80.

Juvenile Delinquency Proneness. By Joseph K. Balogh and Charles J. Rumage. Washington, D. C.: Public Affairs Press, 1956. Pp. 35. $1.00.

Light, Vegetation and Chlorophyll. By J. Terrien, G. Truffaut, and J. Carles. New York: Philosophical Library, 1957. Pp. xi + 224. $6.00.

Modern Marriage and Family Living. By Morris Fishbein and Ruby Jo Reeves Kennedy. New York: Oxford University Press, 1957. Pp. xvii + 545. $5.00.

Modern Sociological Theory. Edited by Howard Becker and Alvin Boskoff. New York: The Dryden Press, 1957. Pp. xiii + 756. $6.50.

Patterns of Farm Financial Structure. By Donald C. Horton. Princeton, N. J.: Princeton University Press, 1957. Pp. xx + 185. $4.50.

Social Problems at Midcentury. By Jessie Bernard. New York: The Dryden Press, 1957. Pp. xi + 654. $6.00.

Sociology. By Joseph H. Fichter. Chicago, Ill.: The University of Chicago Press, 1957. Pp. xiii + 450. $5.00.

Systems of Social Security. Geneva: International Labour Office, 1957. Pp. xi + 73. $0.60.

The Tomkins-Horn Picture Arrangement Test. By Silvan S. Tomkins and John B. Miner. New York: Springer Publishing Company, Inc., 1957. Pp. xv + 383. $10.00.

BULLETIN REVIEWS

*Edited by Louis J. Ducoff**

Montana's Population Changes, 1920 to 1950, Especially as to Numbers and Composition. Carl F. Kraenzel and George Engstrom. Montana Agr. Expt. Sta. Bull. 520, Bozeman. 77 pp. June 1956.

This bulletin includes four main parts: (*1*) population growth and projections for Montana from 1920 to 1950; (*2*) differentials in population trends in the Plains area and the Mountains area of the state; (*3*) Montana's population prospects after 1950, including an estimate for 1960; and (*4*) discussion of population sparsity as a social cost. The last part is illustrated by differential per-capita school costs of the *Sutland* area (mostly irrigated) and the *Yonland* area (predominantly dry land farms and ranches) and is quite different in nature from the rest of the bulletin. The conclusions span nearly six pages (pp. 65-70). Two appendixes give the procedure for projecting the population of the state, and the selection and comparison of the Sutland and Yonland areas.

The method used for projecting Montana's population is *not* the one in which the net migration to or from the state may be found by means of known census data at the beginning and at the end of the period, and the known difference between births and deaths during the same period. Instead, the authors adopted a complex method of estimating survivors-to-1950 on the basis of the population in 1920. These projections require, of course, known fertility rates, mortality rates, and population data regarding age and sex composition and rural-urban residence. The first appendix reveals a number of points where it is necessary to proceed on the basis of arbitrary assumptions and to use calculated estimates of population in place of actual census data. Average mortality and fertility rates were applied to the several population classes.

On the whole, the method assumes no migration in and out of the state (pp. 8 ff.), and the projections are, in the main, *forward* from 1920 to 1950. However, in a later passage (pp. 33 ff.), the bulletin discusses the effect of in-migration on Montana's population. The authors found it necessary, therefore, "to decrease the census population of 1930 and 1940 by the amount of in-migration since 1920 (and the children of these people). This was done by a *projection backward*" (p. 33). With this technique, they came to the conclusion "that if migration from Montana had occurred without any corresponding movement of people into the state since 1920, the 1940 *actual* population would have been smaller by 23,000 than the census count indicated" (p. 34).

In the first part, several tables—many of them full-page size—compare the *actual* population with the *projected* population in 1920, 1930, 1940, and 1950, and indicate the differentials between these two series for the state, its rural-urban areas, sex ratios, age and sex groups, and the Plains and Mountains areas. In 1920, Montana had a census population of 548,889; in 1950, the census was 591,024. The projected population in 1950 was 778,665; and the difference between the actual and projected figure was 187,641. However, this difference does not represent net migration from Montana, but rather the net loss of potential population for the state. The authors regard it as a minimum net loss of population. The method which is used to determine survivors (to 1950) of the population in 1920 does not appear to give a clear-cut answer to the question: What was the extent of net out-migration?

JOHN P. JOHANSEN.

Department of History and Social Sciences, Northern Michigan College.

Population Change and Migration in Oklahoma, 1940-1950. James D. Tarver. Oklahoma Agr. Expt. Sta. Bull. 485, Stillwater. 39 pp. Jan. 1957.

The purpose of this Oklahoma bulletin is to measure natural increase, to ascertain population change attributable to natural increase and to net migration, to determine the states of origin and destination of the interstate migrants, to establish characteristics of the migrants for the state and economic areas, and to measure interstate net migration.

Migration was estimated by the forward method, using life-table-survival rates rather than census-survival ratios. There is the possibility that the out-migration for Oklahoma may have been overestimated by this technique, since there is explicit in this

*Assisted by Elsie S. Manny.

method the assumption that deaths are equally distributed among migrants and nonmigrants. Source and destination of interstate migrants were computed for the period 1949-1950, and some net gain by migration was revealed.

The findings with respect to characteristics of migrants indicate that out-migration is highest in the years 20 to 29 (age in 1950), decreases to age 65, and increases again among those age 75 and over. Relatively, out-migration is one and a half times as high for nonwhites as for whites. More males than females migrate out, and this disparity is greater among nonwhites than whites.

The urban areas of Oklahoma gained about 8 per cent through net migration, with Tulsa and Oklahoma counties accounting for virtually all the gain. The rural-nonfarm population decreased about 9 per cent and the rural-farm population about 53 per cent through out-migration. Population movement by residence and by age in 1950 is depicted graphically in a series of histograms. Where the direction of migration for all age groups is constant, these are quite simply read; but where the direction of migration changes for the various age groups, the legibility would have been increased substantially had bar graphs been used in place of histograms.

The bulletin, in terms of the stated reason for its publication, is well put together and, with the exception of the figures noted, the data are well portrayed. A short methodological appendix follows the body of the bulletin.

OWEN B. DURGIN.

Department of Agricultural Economics,
University of New Hampshire.

Rural Farm Retirement. Daniel E. Alleger. Florida Agr. Expt. Sta. Bull. 583, Gainesville. 51 pp. Feb. 1957.

This study had two primary objectives: to determine (*1*) how retirement farming contributes to the economic well-being of retired people, and (*2*) how specific factors —such as annual retirement income, age, and disability, among others — affect net farm earnings and personal satisfactions from farming.

Field interview records were taken, during 1952 and 1953, from 192 rural-retirement farm families in five Florida counties. In the 175 retained for analysis, 68 family heads were native Floridians and 107 were in-migrants. Of the 107 migrants to Florida, 27 gave climate as the reason for coming. The next most significant reasons given were health (24) and the presence of relatives and friends (24); gainful employment attracted 19.

The average retiree was between 69 and 70 years of age. The average grade he completed in school was the seventh. His annual retirement income was $974, while his cash needs amounted to $1,164. He owned his own home, and his farm was valued at about $5,300.

Of all the retirees, 76 per cent, according to their own rating, were disabled. The five leading causes of disability, named in order of occurrence were: arthritis, hernia, heart disease, high blood pressure, and eye disorders.

About 57 per cent of the retirement farmers gave economic reasons as motivations for farming, 29 per cent rated their motivations as "subjective," and the other 14 per cent were unable to rate their reasons. Nearly 61 per cent of the farmers devoted time to home gardening. The net farm income plus the value of products furnished by the farm for family use amounted to $212 for the average farmer.

The data indicated that an individual's ability to realize net earnings from farming decreases with advances in age. Consequently, he should have a retirement income large enough to make him independent of farm income. Persons retiring at 65 may expect a rather short period of farming activity if they rely largely on their own labor.

From the standpoint of analytical statistical analysis, the sample is too small. Nevertheless, the study is a distinct contribution to a new area of research. The findings are provocative and should stimulate considerable interest in further research dealing with the problems of rural farm retirement.

BARDIN H. NELSON.

Department of Agricultural Economics
& Sociology,
Texas A. and M. College.

Land Occupancy, Ownership, and Use on Homesteads in Alaska's Kenai Peninsula, 1955. Hugh A. Johnson and Robert J. Coffman. Alaska Agr. Expt. Sta. Bull. 21, in cooperation with the U. S. Dept. of Agr., Palmer. 31 pp. Nov. 1956.

Agricultural pioneering, which has been going on for more than 350 years on American soil, has not yet ended. Homesteading has had an attraction for all kinds of Americans, many of them poorly equipped for any kind of farming, to say nothing of pioneer farming. Practically all the good

public lands that can be easily, cheaply, and readily brought into cultivation for new farmsteads were taken up long ago. As increasingly marginal lands have been resorted to, the tasks of homesteading have increased. After every war, however, pressure has been brought upon the federal government to assist men who have served in the armed forces to settle on the land.

This bulletin tells the story of attempts to settle on lands of the Kenai Peninsula of southern Alaska between 1945 and 1955, chiefly by veterans of World War II. The survey covered 851 homesteads totaling over 100,000 acres. Livestock enterprises predominated in the farming operations, with trucking and dairying assuming a minor part. By 1955, 59 per cent of the patented or homesteaded land was unoccupied or abandoned, 31 per cent was being used only for residence purposes by nonfarmers, and only 10 per cent was being used for farming or held for future farming. Of the 851 homesteads, only 38 were being farmed on a full- or part-time basis. The mortality rate for homestead occupancy has been extremely high. Of 80 homesteaders farming or planning to farm in 1950, all but 27 had dropped out by 1955. Among homesteaders, only 14 per cent of the yearly income was derived from the sale of farm products. In 1955, the average homestead income was $3,812.

The settlers' experiences show some of the greatest disadvantages and problems of recent pioneering in agriculture: the marginality of the land; lack of farming experience on the part of many settlers; their background of easy, comfortable city life, in contrast to the isolation in the wilds of an undeveloped country; limited loan funds; limited local outlets for products; poor farming facilities; expectations of modern comforts and community facilities impossible in a new country; and the lack of public facilities such as schools, roads, and rural electrification. Utilization of Alaskan farming lands imposes family sacrifices that very few Americans are willing to endure at the middle of the 20th century.

FRED R. YODER.

Department of Sociology,
Lewis and Clark College.

Nutritional Status of School Children 15 and 16 Years of Age in Three Idaho Communities. Kathleen P. Warnick, Shirley V. Bring, and Ella Woods. Idaho Agr. Expt. Sta. Bull. 33, Moscow. 74 pp. June 1956.

This study was part of the Western Regional Research Project on the Nutritional Status of Population Groups in Selected Areas of the West. It was carried out through the cooperation of the Human Nutrition Research Branch, Agricultural Research Service, U. S. Department of Agriculture, and the Idaho State Department of Public Health. The unusual range of variation in soil, water, and climatic factors in Idaho warranted a study of the relation of environmental conditions and diet to dental caries. Native-born-and-reared school children from northern Idaho (around Coeur d'Alene, representing an area of high caries incidence) and from southwestern Idaho (around Boise and Nampa, representing an area of low caries incidence) were selected for intensive study by means of dental and physical examinations, bone-density measurements, selected biochemical blood tests, and 7-day dietary records. Data on the dental, biochemical, and dietary phases have been presented in journal articles. Details of interest concerning the characteristics of the subjects, how the project was carried out, medical and dietary histories, growth and development of the children, results of medical and laboratory tests, and summaries of published data are brought together in this bulletin to give a complete picture of the results of the study.

The outstanding difference among the children by communities was in the condition of the teeth. The average caries incidence in the Coeur d'Alene area was more than twice that in the Boise or Nampa areas; decayed, missing, or filled teeth averaged 18.2, 7.5, and 5.7, respectively. These results were not found to be related to differences in dental care; they are best explained, at least in part, by differences in fluoride content of the municipal water supplies.

Children in the three communities had similar histories of childhood diseases. No differences by communities were found in the ranges of height-weight values. Skeletal ages, determined by X-rays, were greater than chronological ages for the girls, but somewhat less than chronological ages for the boys in all groups. Few signs which could be associated with poor nutrition were found in medical examinations.

In the laboratory and biochemical tests, regional differences were noted only in serum carotene and serum copper values, thoes from Coeur d'Alene being significantly lower than those from Boise and Nampa. Although Nampa hemoglobin values were significantly lower than those of the other two groups, no subjects had values indicative of anemia. In fact, few of the values for the biochemical constituents studied

were outside the generally accepted levels of normal.

Nutrient intakes, calculated from the 7-day food records, showed little variation by communities. Average intakes of most nutrients were very good. Those most frequently low were ascorbic acid, calcium, and vitamin A, all of which would be supplied by a few changes in food habits.

The bulletin is clearly written and amply supplied with explanatory tables and charts. It presents an interesting report of the nutritional status of adolescents in Idaho.

MILICENT L. HATHAWAY.

Agricultural Research Service,
U. S. Department of Agriculture.

Libraries as Social Institutions. Joseph A. Geddes and Carmen D. Fredrickson. Utah Agr. Expt. Sta. Bull. 393, Logan. 53 pp. Sept. 1956.

Outside the two most urban counties of the state, more than half the people of Utah are without public library service. This results primarily from a thinly scattered population, great area variations in wealth, and a laissez-faire philosophy which leaves each municipality and county strictly to itself in determination of need and means of financing. A marked relationship was found in this study between the amount of reading done and the accessibility, size, and level of professional leadership of libraries. Inquiry in four counties uncovered sufficient appreciation of need and a willingness to pay for library service of an acceptable standard, interest being related more closely to educational level than to any one other factor.

Recommended are a state library with service of its own, plus responsibility for stimulating local interest and setting standards; state aid for local libraries; multi-county regional libraries with local county cooperative control; and greater reliance upon bookmobiles and other modern means of communication and transportation for encouraging demand and giving service.

A note of hope is injected (p. 8):

> Basic to the thinking of the Utah pioneers was the idea of building a well rounded, well balanced culture which under religious motivation would achieve such results that people from every land would come to Zion to see "her greatness and her glory." Here were to be no puny institutions, no neglected areas, but such development of sound social organization that agencies and institutions would be powerful enough to establish and maintain control over all the various environments. Disorganizing influences would be satisfactorily held at bay.
>
> This virile ideal of obligation and dedication aimed at making strong the weak institutions and agencies may yet turn out to be the pioneers' greatest legacy to the people.

Standards set by the American Library Association are used throughout the study, as well they might be, for purposes of comparison. When nationwide standards, goals, and procedures are established by a profession, what is the relation of the rural sociologist thereto? Does he always accept and never challenge nor contribute anything peculiarly his own to them as they apply to varying times, places, and circumstances? Aside from his ties and facilities, what more does he add to a study than could the professional group of concern?

Photographs, illustrations, and tables, as well as organization of subject matter, make a bulletin which should be effective with laymen and officials in the promotion of more and better library service.

In a thought-provoking foreword, "I Step Aside," Geddes says farewell to a thirty-year relationship with the Utah Agricultural Experiment Station. He emphasizes the need for being strictly scientific and objective even though the results at times seem unkind. "Impersonality has not always been fully achieved." How could it, by one so deeply identified with the people of his mountain state and their spiritual motivations? And one might add, why should it, in an age of conformity when commitment is so greatly to be desired? This is undoubtedly heresy, but it also may be practical. The future of rural sociology may be less closely related to its on-campus status than to its effectiveness as a tool and stimulant to a lay public indifferent to academic niceties. Fortunately this is not a question of either/or. This reviewer hastens to add that he does not wish to implicate the authors in this thought.

WM. MCKINLEY ROBINSON.

Department of Rural Life & Education,
Western Michigan University.

Handbook for Self-Study of Health Care. Robert D. Wright and W. E. Garnett. Virginia Council on Health and Medical Care, Richmond, Va. 39 pp. No date.

This Is Your Health: Orange County Self-Study of Health Care. Virginia Council on Health and Medical Care, Richmond, Va. 34 pp. No date.

The first of these two publications out-

lines procedures for community- or county-wide surveys, conducted by local citizens, of health and medical-care conditions and problems. The other publication is an illustration of a report and recommendations following such a study in a Virginia county.

In the handbook, two other approaches to action to solve health problems—expert consultation and local health conferences—are contrasted briefly with the more ambitious procedure — self-surveys — to which most attention is given. The self-survey is presented as a useful procedure for discovering the nature and scope of a variety of health problems. Various aspects of conducting such a survey—forming a sponsoring committee, securing consultants, financing, forming technical committees and determining their aims, and writing study outlines and questionnaires—are discussed, and many specific suggestions are made. Three appendixes list resources of published data, give procedures for organizing a health council, and present an illustrative questionnaire for use in interviewing families.

The pamphlet reporting results of a county self-survey indicates that several concrete health problems were defined more specifically, often in quantitative terms, and that some action had already occurred in line with recommendations of survey committees.

A possible shortcoming of these publications is that they do not give community leaders interested in health problems adequate warning of the difficulties which sometimes arise in sustaining organized efforts to grapple with the several problems likely to be defined more sharply in a comprehensive survey. However, some specific problems are described in an article, "Symposium on Community Self-Surveys in Health." (See *American Journal of Public Health*, [Mar., 1955], pp. 273-284.) In general, the authors have carried out their specific purposes, which were to describe self-survey procedures in terms understandable to both health professionals and laymen.

CARL E. ORTMEYER.

Social Security Administration,
Department of Health, Education, & Welfare.

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NEWS NOTES AND ANNOUNCEMENTS

Edited by Marion T. Loftin

COLLEGES AND UNIVERSITIES

Colorado State University. James G. Hodgson became Emeritus Director of Libraries on July 1, 1957, and is now Chief, Library Branch, Quartermaster Food and Container Institute of the Armed Forces, 1819 W. Pershing Road, Chicago 9, Illinois.

University of Florida. T. Lynn Smith, professor of sociology, served as visiting lecturer at the Universidad Nacional Autónoma de Mexico during the month of June, under a cooperative arrangement between the university and the U. S. Department of State. He gave a short course on rural sociology at the Escuela de Ciencias Políticas y Sociales, and a seminar on the same subject for the personnel of the Instituto de Investigaciones Sociales.

Under the title *Problemas Sociológicos de América Latina*, the U. S. Information Service at the American Embassy in Bogotá has published four of the lectures presented by Smith during the summer of 1956 when, under the sponsorship of the U. S. Department of State, he spent three months lecturing at universities and other cultural centers in Portugal and throughout South America.

University of Illinois. J. Ed Hulett, Jr., and Richard Dewey have been promoted to professor of sociology.

Daniel Glaser and Robert W. Janes have been promoted to associate professor of sociology.

Bernard Farber has been promoted from research associate to assistant professor of sociology. For the past two years, Farber has been in charge of a research project on the effects of a severely mentally retarded child on family integration, sponsored jointly by the Department of Sociology and Anthropology and the Institute for Research on Exceptional Children. He will continue in charge of this project, and will also offer a graduate course on research in family relations.

Edward H. Winter has been promoted to associate professor of anthropology. During the coming year he will be on leave of absence to conduct field research in East Africa. This field trip is part of a three-year project to study regularities of change among contemporary native populations, under the direction of Julian Steward, research professor of anthropology. The field work phase of this project is now under way, with a staff of eleven anthropologists stationed in Mexico, South America, East and West Africa, Indonesia, Thailand, and Japan.

Max Kaplan has resigned as assistant professor of sociology and of music, to accept a position as associate professor in the School of Fine and Applied Arts, Boston University.

Eleanor P. Godfrey has resigned from her position as assistant professor of sociology, and is moving with her family to Washington, D. C., where her husband will be employed in the U. S. Geological Survey.

Oscar Lewis, professor of anthropology, will return to the staff after a year's leave of absence to study, in Mexico City, the effects of urbanization and industrialization on families of rural background who have moved to the city. This research has been supported by a Guggenheim Fellowship and a grant from the University Research Board.

John McGregor, professor of anthropology, has established on the campus the central repository of the Illinois Archaeological Survey, which is engaged in cataloguing and mapping archaeological sites in Illinois. He is also in charge of the Illinois Highway Salvage Program, conducting reconnaissance and preliminary investigation of potential archaeological sites along the right-of-ways of projected new highways in the state.

University of Kentucky. For 1957-58, the professional staff in sociology and rural sociology consists of 18 persons, of whom one is on leave, one is emeritus, and 16 are in residence and on full-duty status. There are also eleven graduate assistants, fellows, and scholars.

Newly appointed staff members are Bruce J. Biddle, assistant professor of sociology, who comes from a position at Wayne University and is a graduate of the doctoral program in social psychology at the University of Michigan; and John Flint, instructor in sociology, who has just completed the Ph.D. at the University of Wisconsin. E. Grant Youmans, who holds the Ph.D. from Michigan State University, has replaced John R. Christiansen as the representative of the Farm Population and Rural Life Branch, AMS, USDA, stationed at the

university. Youmans also holds a university appointment as lecturer in sociology. He transferred from the National Institute of Mental Health, Bethesda, Maryland.

Graduate assistants for the year are Harry Gracey, Janet Irving, Austin Turk, Norma Breazeale, Ross Lowes, and Young Ja Lee. Joy N. Query holds a Kentucky Research Foundation fellowship. Charles Garth and Cecil Powell are Southern Education Foundation Fellows. Gordon DeJong holds a Haggin scholarship, and Eric Ericsson holds a Foreign Student Committee scholarship.

James W. Gladden has been promoted to professor of sociology, and A. Lee Coleman has been promoted to professor of sociology and rural sociologist.

University of Missouri. Charles E. Lively received the Gamma Sigma Delta citation for outstanding service to agriculture for the year 1957. The Gamma Sigma Delta award is granted annually to a senior faculty member of the College of Agriculture who has demonstrated outstanding research or teaching.

The manuscript for the first bulletin of the series on "The Church in Rural Missouri at the Midpoint of the Twentieth Century" is in press. This is one of six bulletins reporting research undertaken by the Department of Rural Sociology, with the cooperation of the Bible College of Missouri and the Rockefeller Foundation. The research has been directed by Lawrence M. Hepple.

Herbert F. Lionberger has been appointed secretary-treasurer of the Rural Sociological Society.

The annual meeting of the American Country Life Association was held at the University of Missouri, July 15-16, 1957. Charles E. Lively was program chairman and Robert L. McNamara was in charge of local arrangements.

Robert L. McNamara has been elected chairman of the North Central Rural Sociological Committee. He has also been elected vice-president of the Missouri Public Health Association.

George T. Blume received his doctorate in rural sociology in June. His dissertation was titled, "Spatial and Social Relationships of Rural Churches in Six Selected Areas of Missouri." Blume has been at Virginia Polytechnic Institute for the past two years, where he is engaged in extension work and research.

Conservation Education in American Colleges, a book by Charles E. Lively and Jack J. Preiss (now at Michigan State) being published by the Ronald Press, should be available by early summer. The research for this book was financed by the Conservation Foundation.

The university will install an electronic digital computer. It will be housed in the Department of Rural Sociology, and Cecil L. Gregory will have major responsibility for programing and use.

The department has cooperated during the past year with the Union Electric Company in its program of community development. John S. Holik has major responsibility for the community development program and will teach a redesigned community course.

University of Saskatchewan. The University of Saskatchewan announces the establishment of a Center for Community Studies as a joint venture of the Government of Saskatchewan and the university. W. B. Baker is the director. The Center will function as an independent agency, with a technical program of applied social research, and consultation and professional training on the social and economic aspects of community development. Organizations and agencies are invited to place the Center on their mailing lists.

University of Wisconsin. Carl F. Kraenzel was a visiting professor in the department in the Summer Session of 1957.

Murray A. Straus has been appointed assistant professor in the department, beginning August, 1957, to do teaching and research. He is also assistant editor of *Sociological Abstracts*, with responsibility for the coverage of materials in rural sociology.

Emmit F. Sharp has resigned to accept a research position, with Cornell University, on a study of migrant farm labor.

ANNOUNCEMENTS

Ralph R. Nichols has retired from his position as assistant to the chief, Farm Population and Rural Life Branch, after seventeen years of service with the Department of Agriculture. He spent the summer engaged in survey work for the Department of Rural Sociology, University of Connecticut, and hopes there will be further opportunities to remain active in such work.

From Mexico comes word that Roberto Cuba Jones is engaged in the private practice of technical assistance in industrial, agricultural, and general socio-economic fields, and is serving as a technical consultant with the Mexican Institute for Economic Research. A center, operated by him

and his wife at Chilpancingo 23, Mexico City 11, D. F., is available to visitors for the general purpose of bringing together persons interested in knowing the country better, especially the rural areas and community life. Intercultural and interlingual activities are a feature of the project, as well as study groups on community development and group processes.

The Washington office of the Social Science Research Council was permanently closed at the end of July, and the staff—Elbridge Sibley, Boyce Wood, and Joseph B. Casagrande—transferred to the main office at 230 Park Avenue, New York 17, New York. The Council will again offer during the coming year predoctoral and postdoctoral training fellowships, faculty research fellowships, and grants-in-aid of research to qualified applicants in all fields of social science. After August 1, inquiries concerning fellowships and grants should be directed to the New York address given above. When pertinent, brief indication of the inquirer's age, position, academic status, and type of support desired will be helpful.

A new social science quarterly journal, *Revista de Ciencias Sociales*, began publication with volume 1, number 1, in March, 1957. This journal is published by the College of Social Sciences, University of Puerto Rico, Rio Piedras. It is published in Spanish, with English abstracts. Raul Serrano Geyls is editor. Annual subscriptions are $3.00; single copies, $1.00.

RURAL SOCIOLOGICAL SOCIETY MEMBERSHIP, 1957

Total: 525

United States (473)

ALABAMA (4)

Andrews, Henry L.	Box 797	University
Caldwell, Morris G.	Box 636	University
Edwards, V. A.	Box 925	Tuskegee Institute
Percy, John E.	Box 129, VA Hospital	Tuskegee

ARKANSAS (3)

Charlton, J. L.	University of Arkansas	Fayetteville
Folkman, William S.	University of Arkansas	Fayetteville
Hudson, Gerald T.	University of Arkansas	Fayetteville

CALIFORNIA (14)

Andersen, Martin P.	878 South Bundy Drive	Los Angeles 49
*Bachenheimer, Richard	1543 Spruce Street	Berkeley 9
Davis, Kingsley	University of California	Berkeley 4
Green, James W.	APO 74, Box K	San Francisco
Gross, Neal	202 Junipero Serra Boulevard	Stanford
Kurtz, Richard A.	San Diego State College	San Diego 15
McMillan, Robert T.	APO 74, Box B	San Francisco
Neal, Ernest E.	USOM/CIA, APO 928	San Francisco
#Pedersen, Harald A.	APO 74, Box K	San Francisco
#Pedersen, Edna S.	APO 74, Box K	San Francisco
Rasmussen, Albert T.	1796 Scenic Avenue	Berkeley 9
Scott, Woodrow W.	3765 Strang Avenue	Rosemead
Taylor, Paul S.	University of California	Berkeley 4
Williams, Hugh J.	245 E. Walnut Street	Pasadena

COLORADO (3)

Clark, Catherine R.	Colorado State University	Fort Collins
Sardo, Joseph	Colorado State University	Fort Collins
Whitley, Oliver R.	2201 S. University Boulevard	Denver 10

CONNECTICUT (4)

†Brunner, Edmund deS.	R. R. 3	Wilton
Burnight, Robert G.	University of Connecticut	Storrs
McKain, Walter C., Jr.	University of Connecticut	Storrs
Whetten, Nathan L.	University of Connecticut	Storrs

DISTRICT OF COLUMBIA (21)

Beale, Calvin L.	1960 Biltmore Street, N.W.	Washington 9
Bertrand, Alvin L.	Agricultural Marketing Service	Washington 25
**Bruce, William F.	7711 Old Chester Road	Washington 14
*Butt, Herbert W.	1519 Varnum Street, N.W.	Washington 11
*Byrn, Darcie	2808 Naylor Road, Apt. A-131	Washington 20
Clark, Lois M.	1201—16th Street, N.W.	Washington 6
Dawson, Howard A.	1201—16th Street, N.W.	Washington 6
Ducoff, Louis J.	Agricultural Marketing Service	Washington 25
Hagood, Margaret Jarman	Agricultural Marketing Service	Washington 25
Hague, Bart	1916—17th Street N.W., Apt. 302	Washington 9
Hartman, Vladimir E.	1751 N Street, N.W.	Washington 6
Isenberg, Robert M.	1201—16th Street, N.W.	Washington 6
Johnston, Helen L.	4909 Boyard Boulevard	Washington 16
*Lorimer, Thomas	2930 Chesapeake Street, N.W.	Washington 8
Maitland, Sheridan T.	Agricultural Marketing Service	Washington 25
Manny, Elsie S.	1733 Taylor Street, N.W.	Washington 11
Matthews, M. Taylor	USOM/Liberia, c/o Department of State	Washington 25
Niederfrank, E. J.	Extension Service, USDA	Washington 25
Porter, Ward F.	Extension Service, USDA	Washington 25
Rose, John Kerr	Suite 601, 1311 G Street, N.W.	Washington 5
Wells, Oris V.	Agricultural Marketing Service	Washington 25

*Student membership.
**Emeritus membership.
†Contributing membership.
#Joint membership.

FLORIDA (9)

Leap, William L.	Florida State University	Tallahassee
*Maloof, Louis J.	Box 2741, University Station	Gainesville
Moore, Coyle E.	Florida State University	Tallahassee
*Newberry, John S., Jr.	P. O. Box 3233, M.S.S.	Tallahassee
*Pruett, H. T.	Florida State University	Tallahassee
Ryan, Bryce	University of Miami	Coral Gables
Smith, T. Lynn	University of Florida	Gainesville
Taylor, Carlis	Box 3568, University Station	Gainesville
Verner, Coolie	Florida State University	Tallahassee

GEORGIA (7)

Belcher, John C.	University of Georgia	Athens
Bertrand, John R.	Box 258	Mt. Berry
Carr, James M.	341-B Ponce de Leon Avenue	Atlanta
Hopkins, W. E.	State College of Business Administration	Atlanta 3
Knowlton, Clark S.	Box 344, Georgia Teachers College	Collegeboro
Payne, Raymond	University of Georgia	Athens
Williamson, Ralph L.	Gammon Theological Seminary	Atlanta 15

ILLINOIS (25)

Brooks, Melvin S.	509 S. Poplar	Carbondale
Chandler, Charles S.	607 W. College Street	Carbondale
Cummins, Ralph	809 S. Fifth Street	Champaign
Duncan, Otis Dudley	935 E. 60th Street	Chicago 37
Folse, Clinton L.	University of Illinois	Urbana
*Franz, Verl R. W.	9011 Southview Avenue	Brookfield
Hodgson, James G.	2330 Lincoln Park West	Chicago 14
Hoxsie, Wayne W.	320 S. 19th Street	Mt. Vernon
King, Haitung	Illinois Wesleyan University	Bloomington
King, Morton B., Jr.	Northwestern University	Evanston
Lindstrom, D. E.	University of Illinois	Urbana
Long, Harold R.	Southern Illinois University	Carbondale
Mueller, E. W.	327 S. LaSalle Street	Chicago 4
Myers, Richard A.	127 N. Dearborn Street	Chicago 2
Obenhaus, Victor	5757 University Park	Chicago 37
Parr, F. O.	Olivet Nazarene College	Kankakee
Ratcliffe, S. C.	Illinois Wesleyan University	Bloomington
Regnier, E. H.	University of Illinois	Urbana
Schersten, A. F.	Augustana College	Rock Island
Schnert, Frank H.	Southern Illinois University	Carbondale
*Schroeder, W. W.	5757 University Avenue	Chicago 37
Schweitzer, Harvey J.	R.F.D.	Malta
Shideler, Ernest	103 W. Florida Avenue	Urbana
Smith, Harold E.	Northern Illinois University	DeKalb
Smith, Rockwell C.	Garrett Biblical Institute	Evanston

INDIANA (8)

Biddle, W. W.	Earlham College	Richmond
Christensen, Harold T.	1815 Woodland Avenue	West Lafayette
Kauffman, J. Howard	Goshen College	Goshen
‡Losey, J. Edwin	Purdue University	Lafayette
*Matthew, John C.	Box 93	Kirklin
Olson, Philip	Purdue University	Lafayette
Rector, Franklin E.	Butler University	Indianapolis 7
Stabler, George M.	Earlham College	Richmond

IOWA (19)

Bauder, Ward W.	Iowa State College	Ames
Beal, George M.	Iowa State College	Ames
Becker, Edwin L.	Drake University	Des Moines
*Bethel, Dayle M.	1020 Pammel Court	Ames
Bohlen, Joe M.	Iowa State College	Ames
Drier, William H.	Iowa State Teachers College	Cedar Falls
Graff, E. F.	Iowa State College	Ames
Harris, Marshall	418 River Street	Iowa City
Hradecky, W. C.	St. Wenceslaus Church, Duncan	Britt
Jamison, William G.	University of Dubuque	Dubuque
Koontz, Donald H.	Simpson College	Indianola
Ligutti, L. G.	3801 Grand Avenue	Des Moines 12

*Student membership.
‡Deceased.

Murphy, Donald R.	*Wallaces' Farmer and Iowa Homestead*	
	1912 Grand Avenue	Des Moines 5
Rohwer, Robert A.	R.R. 1	Paullina
*Russell, Amy B.	121 High	Ames
Schnucker, Calvin	University of Dubuque	Dubuque
Stacy, W. H.	Iowa State College	Ames
Van Til, Clara	615 South William	Orange City
Wakeley, Ray E.	Iowa State College	Ames

KANSAS (6)

Anderson, James A.	402 South Main	Lindsborg
Erickson, Lowell R.	401½ N. Second Street	Lindsborg
Gerling, Amy G.	University of Wichita	Wichita
Hill, Randall C.	Kansas State College	Manhattan
Schroll, Sister Agnes Claire	Mount St. Scholastica College	Atchison
Wolters, Gilbert	St. Benedict's College	Atchison

KENTUCKY (19)

Anderson, C. Arnold	University of Kentucky	Lexington
Beers, Howard W.	University of Kentucky	Lexington
*Breazeale, Norma	University of Kentucky	Lexington
Brown, James S.	University of Kentucky	Lexington
Coleman, A. Lee	University of Kentucky	Lexington
Coughenour, C. Milton	University of Kentucky	Lexington
Flint, John T.	University of Kentucky	Lexington
Ford, Thomas R.	University of Kentucky	Lexington
*Garth, Charles E.	University of Kentucky	Lexington
Hanna, C. M.	109 E. Broadway	Louisville 2
Hendon, Robert L.	Murray State College	Murray
*Lee, Young Ja	University of Kentucky	Lexington
*Lowes, Ross E.	University of Kentucky	Lexington
Luebke, B. H.	Berea College	Berea
*Query, Joy M.	University of Kentucky	Lexington
Ramsey, Ralph J.	University of Kentucky	Lexington
Sutton, Willis A., Jr.	University of Kentucky	Lexington
Yoder, Fred R.	Western Kentucky State College	Bowling Green
Youmans, E. Grant	University of Kentucky	Lexington

LOUISIANA (12)

Bourgeois, Lawrence L.	Loyola University	New Orleans 18
*Fogleman, Charles W.	Louisiana State University	Baton Rouge 3
Frey, Fred C., Sr.	5141 Greenside Lane	Baton Rouge
Garmon, William S.	4075 Dement Street	New Orleans 22
Heberle, Rudolf	Louisiana State University	Baton Rouge 3
Hitt, Homer L.	Louisiana State University	Baton Rouge 3
Hyde, Roy E.	R.R. 2, Box K16	Hammond
Martinson, Floyd M.	4956 Venus	New Orleans
*Osborne, Harold	360 W. Garfield	Baton Rouge
Parenton, Vernon J.	Louisiana State University	Baton Rouge 3
Price, Paul H.	Louisiana State University	Baton Rouge 3
Thompson, Susanne	Box 8444, University Station	Baton Rouge 3

MAINE (1)

Ploch, Louis A.	University of Maine	Orono

MARYLAND (18)

Contes, Charles H.	University of Maryland	College Park
Fitzgerald, Sherman K.	University of Maryland	College Park
Hirzel, Robert	University of Maryland	College Park
Hoffsommer, Harold	University of Maryland	College Park
Howes, John Baxter	Westminster Theological Seminary	Westminster
Longmore, Virginia L.	2700 Pivers Mill Road	Silver Spring
*Marches, Joseph R.	3424 Tulane Drive	University Hills
Melvin, Bruce L.	University of Maryland	College Park
Oliver, J. A.	Maryland State College	Princess Anne
Posada F., Antonio J.	705 Dryden Street	Silver Spring
Roberts, Roy L.	4404 Bywood Lane	Bethesda 14
Rohrer, Wayne C.	University of Maryland	College Park
Shryock, Henry S., Jr.	3420 Fairhill Drive	Suitland 23
Solomon, Darwin D.	4222 Sheridan Street	Hyattsville
#Taeuber, Conrad F.	4222 Sheridan Street	Hyattsville
#Taeuber, Irene B.	University of Maryland	College Park

*Student membership
#Joint membership.

*Tompkins, Leo L.	R.R. 2, Box 110	Waldorf
White, James E.	11139 Dewey Road	Kensington

MASSACHUSETTS (4)

*Kelley, John D.	29 Clyde Street	Belmont 78
Sanders, Irwin T.	8 Eliot Street	Cambridge
Stotts, Herbert E.	11 Hunt Road	Lexington 73
Zimmerman, Carle C.	Harvard University	Cambridge 38

MICHIGAN (23)

Artis, Jay W.	Michigan State University	East Lansing
*Bealer, Robert C.	Michigan State University	East Lansing
Beegle, J. Allan	Michigan State University	East Lansing
Brower, George	Eastern Michigan College	Ypsilanti
*Buholz, George, Jr.	151 Stoddard Avenue	East Lansing
Gettel, Gerhard F.	400 S. Kuipers Drive	Midland
Gibson, Duane L.	Michigan State University	East Lansing
Haller, Archie O.	Michigan State University	East Lansing
Hoffer, Charles R.	Michigan State University	East Lansing
Honigsheim, Paul	802 Cherry Lane, Apt. 112	East Lansing
Johansen, John P.	600 West College Avenue	Marquette
Loomis, Charles P.	Michigan State University	East Lansing
Lowry, Sheldon G.	Michigan State University	East Lansing
*Malone, Lawrence S.	5 Brizse Street	Battle Creek
Miller, Paul A.	Michigan State University	East Lansing
Robinson, William McKinley	1414 Low Road	Kalamazoo
#Schaffer, Ruth	Eastern Michigan College	Ypsilanti
#Schaffer, Albert	Eastern Michigan College	Ypsilanti
Schuler, Edgar A.	Wayne State University	Detroit 2
Sower, Christopher E.	Michigan State University	East Lansing
Thaden, John F.	228 Orchard Street	East Lansing
Voland, Maurice E.	County Building	Kalamazoo
White, Harold B.	Olivet College	Olivet

MINNESOTA (8)

*Baumgartner, H. Walter	University of Minnesota	St. Paul 1
Donohue, George A.	University of Minnesota	Minneapolis 14
Ericson, Mary Alice	Gustavus Adolphus College	St. Peter
Hynes, Emerson	St. John's University	Collegeville
McFarland, Keith N.	3254 Sandeen Road	St. Paul 13
Miller, Ralph E.	School of Agriculture	St. Paul 1
Nelson, Lowry	University of Minnesota	St Paul 1
Swain, William A.	Macalester College	St. Paul 5

MISSISSIPPI (11)

Allen, John H.	Mississippi Southern College	Hattiesburg
Bailey, Wilfrid C.	Box 118	State College
Burrus, John N.	Box 201, Station A	Hattiesburg
*Cole, Lucy Wellborn	204 Wood Street	Starkville
Davis, W. Milan	Okolona College	Okolona
Dickins, Dorothy	Box 235	State College
Fortenberry, J. W.	R.R. 2, Box 121	Lorman
Kaufman, Harold F.	Box 324	State College
Loftin, Marion T.	Box 156	State College
Rivers, Dorris W.	Box 156	State College
Saunders, J. V. D.	Box 885	State College

MISSOURI (13)

Bonwell, Mary R.	University of Missouri	Columbia
Carnes, Otis G.	Central College	Fayette
Falls, Vera	National College	Kansas City 27
Greene, Shirley E.	1720 Choteau Avenue	St. Louis 3
Hassinger, Edward W.	University of Missouri	Columbia
Hepple, Lawrence M.	University of Missouri	Columbia
Holik, John S.	University of Missouri	Columbia
Lionberger, Herbert F.	University of Missouri	Columbia
Lively, Charles E.	University of Missouri	Columbia
McNamara, Robert L.	University of Missouri	Columbia
Nolte, Ernest F.	135 Bompart Avenue	Webster Groves 19
Rich, Mark	Bible College of Missouri	Columbia
Snyder, Claude J.	1720 Chouteau Avenue	St. Louis 3

*Student membership.
#Joint membership.

MONTANA (2)

Douglas, George V.	Montana State College	Bozeman
Kraenzel, Carl F.	Montana State College	Bozeman

NEBRASKA (2)

Anderson, A. H.	University of Nebraska	Lincoln
Moss, J. Joel	University of Nebraska	Lincoln

NEW JERSEY (4)

Blizzard, Samuel W.	Princeton Theological Seminary	Princeton
Graybeal, David M.	Drew University	Madison
Lefes, William S.	Cape May Court House	Cape May
Ransohoff, Priscilla B.	138 Bath Avenue	Long Branch

NEW MEXICO (3)

Geddes, Ezra W.	University of New Mexico	Albuquerque
Hilliard, Truett Lynn	Box 338	Portales
Johansen, Sigurd	Box 55	State College

NEW YORK (49)

Abell, Helen C.	United Nations	New York
*Adler, Robert	620 Stewart Avenue	Ithaca
Alexander, Frank D.	Cornell University	Ithaca
Anderson, Walfred A.	Cornell University	Ithaca
*Aulenbacher, Allison Douglas	522 Dryden Road	Ithaca
#Boek, Walter E.	c/o New York State Health Department	Albany 8
#Boek, Jean K.	c/o New York State Health Department	Albany 8
Colman, Gould P.	Storm King School	Cornwall-on-Hudson
Comfort, Richard O.	National Council of Churches	New York 10
Cummings, Gordon J.	Cornell University	Ithaca
*Danley, Robert A.	Cornell University	Ithaca
Dirkes, Mrs. Robert F.	830 Third Avenue Girl Scouts of the U.S.A.	New York 22
**Duthie, Mary Eva	108 Eddy Street	Ithaca
Ellenbogen, Bert	Cornell University	Ithaca
Ford, Mrs. Thomas J.	830 Third Avenue Girl Scouts of the U.S.A.	New York 22
*Foster, William A., Jr.	Cornell University	Ithaca
Holberg, Otto G.	APO 254 (ICA)	New York
*Holden, David E. W.	Cornell University	Ithaca
Hotchkiss, Wesley A.	287 Fourth Avenue	New York 10
Infield, Henrik F.	Van Wagner Road, R.R. 3	Poughkeepsie
*Lackey, Alvin S.	Pleasant Grove 2-G	Ithaca
*Lamar, Ralph E.	318 Highland Road	Ithaca
Larson, Olaf F.	Cornell University	Ithaca
Laulicht, Jerome	Rip Van Winkle Foundation 454 Warren Street	Hudson
Longest, James W.	Cornell University	Ithaca
Lorge, Irving	Teachers College, Columbia University	New York 27
*Marks, Renee U.	New York State Health Department	Albany 8
*McCaffrey, John D.	709 DeWitt Street	Syracuse
McMinn, Gerald W.	St. Bonaventure University	St. Bonaventure
O'Dea, Thomas F.	Fordham University	New York 58
*Photiadis, John	324 College Avenue	Ithaca
Polson, Robert A.	Cornell University	Ithaca
Ramsey, Charles E.	Cornell University	Ithaca
Randolph, H. S.	Room 722, 156 Fifth Avenue	New York 10
*Reed, Esther W.	Cornell University	Ithaca
Reeder, William W.	Cornell University	Ithaca
Roth, Norman R.	School of Social Work Syracuse University	Syracuse 2
Senior, Clarence	15 Claremont Avenue	New York 27
Sharp, Emmit F.	Cornell University	New York
*Spencer, George E.	205 Linden Avenue	Ithaca
Standing, Theodore G., Sr.	New York State College	Albany 3
Taietz, Philip	Cornell University	Ithaca
Terry, Miriam	Cornell University	Ithaca
Waterman, Willoughby C.	.....	Port Byron
Wayland, Sloan R.	Teachers College, Columbia University	New York 27

*Student membership.
**Emeritus membership.
#Joint membership.

Whitman, Lauris B.	297 Fourth Avenue	New York 10
Whitney, Vincent H.	Population Council, Inc.	New York 17
Williams, Robin M., Jr.	Cornell University	Ithaca
*Young, Ruth C.	Cornell University	Ithaca

NORTH CAROLINA (19)

Abernethy, George L.	Davidson College	Davidson
Bland, Thomas A.	Southeastern Baptist Theological Seminary	Wake Forest
Brown, Minnie Miller	Box 1014, A and T College	Greensboro
Deininger, Marian MacN.	Woman's College U.N.C.	Greensboro
*Denton, Alfred M., Jr.	113 King Street	Chapel Hill
Hamilton, C. Horace	North Carolina State College	Raleigh
Hay, Donald G.	1410 Alabama Avenue	Durham
Hendricks, Garland H.	329 Woodland Avenue	Wake Forest
Klein, William G.	Warren Wilson College	Swannanoa
Marsh, C. Paul	North Carolina State College	Raleigh
Mayo, Selz C.	North Carolina State College	Raleigh
*Miller, Hugh Max	North Carolina State College	Raleigh
Robinson, Howard F.	707 Law Street	Greensboro
Shissler, Henry H.	Pfeiffer College	Misenheimer
*Smith, Vara M.	North Carolina State College	Raleigh
Terrell, Mrs. L. G.	Teachers College	Winston-Salem
Waldrep, Jack	Box 851	Asheville
Wilson, Carrie S.	320 S. Marshall Street	Graham
Young, James N.	North Carolina State College	Raleigh

NORTH DAKOTA (4)

Campbell, Robert Blair	University of North Dakota	Grand Forks
Cleland, Courtney B.	State College Station	Fargo
Huff, Harold S.	115—7th Avenue, N.E.	Minot
Russell, Seth	North Dakota State College	Fargo

OHIO (22)

Andrews, Wade H.	Ohio State University	Columbus 10
Dimit, Robert M.	Ohio State University	Columbus 10
Falconer, J. I.	Ohio State University	Columbus 10
#Houser, Leah G.	Kent State University	Kent
#Houser, Paul M.	Kent State University	Kent
*Huang, Chien-Hsun	104 East 15th Avenue	Columbus 1
Kirkpatrick, E. L.	Marietta College	Marietta
Ludlow, William L.	Muskingum College	New Concord
Mangus, A. R.	Ohio State University	Columbus 10
Miller, Roy D.	United Theological Seminary	Dayton 6
**Morgan, Arthur E.	Community Service, Inc.	Yellow Springs
Morgan, Griscom	Community Service, Inc.	Yellow Springs
*Nagi, Saad	Ohio State University	Columbus 10
Orcutt, Albert W.	Ohio State University	Columbus 10
Oyler, Merton D.	184 East Tulane Road	Columbus 2
Raid, Howard D.	Bluffton College	Bluffton
Reuss, Carl F.	785 Montrose Avenue	Columbus 9
*Rogers, Everett M.	Ohio State University	Columbus 10
Smith, Mervin G.	Ohio State University	Columbus 10
*Snow, Lorenzo H.	Ohio State University	Columbus 10
Tellis, Claude E.	27 N. Monroe Avenue	Columbus
Templin, Ralph T.	R.R. 1	Cedarville

OKLAHOMA (10)

Bauman, C. G.	Oklahoma State University	Stillwater
Duncan, Otis Durant	Oklahoma State University	Stillwater
Fosen, Robert H.	Oklahoma State University	Stillwater
Hamner, Edward D.	Phillips University	Enid
LaCamp, Ira Rex	306 College	Poteau
Montgomery, James E.	Oklahoma State University	Stillwater
Roberts, Charles D.	Box 443	Stillwater
Tarver, James D.	Oklahoma State University	Stillwater
Taylor, Lloyd A.	Box 2005	Enid
Walz, Orry C.	East Central State College	Ada

*Student membership.
**Emeritus membership.
#Joint membership.

OREGON (2)

Bakkum, Glenn A.	521 N. 35th Street	Corvallis
Griffeth, Ross J.	Northwest Christian College	Eugene

PENNSYLVANIA (28)

Bartholomew, A. C.	332 College Avenue	Lancaster
Bonser, Howard J.	Pennsylvania State University	University Park
Brown, Emory J.	Pennsylvania State University	University Park
Buck, Roy C.	Pennsylvania State University	University Park
Bylund, H. Bruce	Pennsylvania State University	University Park
Copp, James H.	Pennsylvania State University	University Park
*Drabick, Lawrence W.	Pennsylvania State University	University Park
DuWors, Richard E.	Bucknell University	Lewisburg
Eshleman, Robert F.	R.R. 2, Box 275	Mount Joy
Fliegel, Frederick C.	Pennsylvania State University	University Park
Gordon, William R.	240 Woodland Drive	State College
Greth, Morris S.	Muhlenberg College	Allentown
*Haas, Donald E.	Pennsylvania State University	University Park
Hostetler, John A.	c/o Herald Press	Scottdale
John, M. E.	Pennsylvania State University	University Park
*Kimlin, Joseph	Pennsylvania State University	University Park
♯Lee, Anne S.	4736 Osage Avenue	Philadelphia 4
♯Lee, Everett S.	4736 Osage Avenue	Philadelphia 4
Mather, William G.	234 E. Hamilton Avenue	State College
*Maurer, B. B.	2000 N. Third Street	Harrisburg
Nolan, Francena L.	772 W. Hamilton Avenue	State College
*Sanford, Glenn F.	1701 Arch Street	Philadelphia 3
*Shimada, Kozaburo	Pennsylvania State University	University Park
*Sill, Maurice L.	Pennsylvania State University	University Park
Smith, William M., Jr.	Pennsylvania State University	University Park
Stewart, M. C.	R.R. 2	Homer City
Tozer, Martin L.	2000 N. 3rd Street	Harrisburg
*Windham, Gerald O.	Pennsylvania State University	University Park

RHODE ISLAND (2)

Mitchell, John B.	University of Rhode Island	Kingston
Spaulding, Irving A.	University of Rhode Island	Kingston

SOUTH CAROLINA (4)

Boyd, Virlyn A.	Clemson College	Clemson
Chang, Jen-Chi	Claflin College	Orangeburg
Edwards, Allen D.	Winthrop College	Rock Hill
Porter, William H., Jr.	1314 Kinderway Street	Columbia

SOUTH DAKOTA (5)

Chittick, Douglas	1328 Third Street	Brookings
Kristjanson, G. Albert	South Dakota State College	Brookings
Sauer, Howard M.	South Dakota State College	Brookings
Sayler, Edward	Yankton College	Yankton
Westby, F. O. M.	Augustana College	Sioux Falls

TENNESSEE (3)

Brown, Ralph G.	3604 Lawrence Road	Knoxville 18
Kloepfer, Herman J.	Knoxville College	Knoxville 16
Murray, Christopher P.	Box 336	Lawrenceburg

TEXAS (12)

Baumbach, Bernard C.	Texas Lutheran College	Seguin
Cox, Bonnie	Agricultural Extension Service	College Station
Firey, Walter	University of Texas	Austin
Judy, Marvin T.	Perkins School of Theology	Dallas 5
*Laronge, Donald M.	1102 S. Congress Avenue	Austin
Leonard, A. L.	Texas Technological College	Lubbock
Locke, Frank M.	1019 West Huisache	San Antonio 1
Miller, Raymond H.	Pan American College	Edinburg
Nelson, Bardin H.	Texas A. and M. College	College Station
Skrabanek, R. L.	Texas A. and M. College	College Station
Watson, Jake	Box 153	Beckville
Wilson, Paul B.	Baylor University	Waco

*Student membership.
♯Joint membership.

UTAH (5)

Black, Therel R.	Utah State University	Logan
Bradford, Reed H.	Brigham Young University	Provo
Cannon, Kenneth L.	Brigham Young University	Provo
Christiansen, John R	Brigham Young University	Provo
DeHart, William A.	691 E. Fifth Street North	Logan

VERMONT (1)

*Davis, Leona L.	Marlboro College	Marlboro

VIRGINIA (18)

Blume, George T.	Box 369	Blacksburg
Bobbitt, Robert McD.	Longwood College	Farmville
Bowles, Gladys K.	827 Hunting Towers, West	Alexandria
Fessler, Donald R.	Virginia Polytechnic Institute	Blacksburg
*Flynn, Don	Jollivue, R.R. 2	Stanton
**Folsom, Josiah C.	1616 N. Garfield Street	Arlington 1
Gee, Wilson	225 Montebello Circle	Charlottesville
Hillery, George A., Jr.	College of William and Mary	Williamsburg
Jehlik, Paul J.	1064 Crane Drive	Falls Church
Metzler, William H.	5003 N. 13th Street	Arlington
**Nichols, Ralph R.	4009—32nd Street, North	Arlington 7
Raper, Arthur F.	R.R. 1, Box 128	Oakton
Richardson, Paul D.	Lynchburg College	Lynchburg
Roberts, Harry W.	Virginia State College	Petersburg
Scott, James E., Jr.	204 Methodist Building	Richmond 19
Tannous, Afif I.	29 Oak Lane, R.R. 4	Annandale
Tate, Leland B.	Virginia Polytechnic Institue	Blacksburg
Taylor, Carl C.	3139 N. Abingdon Street	Arlington

WASHINGTON (5)

Landis, Paul H.	Washington State College	Pullman
Nye, Ivan	Washington State College	Pullman
*Roy, Prodipto	Washington State College	Pullman
Slocum, Walter L.	Washington State College	Pullman
Stone, Carol L.	Washington State College	Pullman

WEST VIRGINIA (4)

Day, LeRoy Judson	Alderson-Broaddus College	Philippi
Gray, Wayne T.	1273 Bryant Street	Fairmont
Rapking, Aaron H.	.....	Lost Creek
Sizer, Leonard M.	West Virginia University	Morgantown

WISCONSIN (27)

Barton, John R.	314 Agricultural Hall	Madison 6
Bayley, Ray W. G.	229 Park Avenue	Prairie du Sac
Clark, Robert C.	University of Wisconsin	Madison 6
Cleland, Charles L.	4314 Mohawk Drive	Madison 5
*Cook, W. Roy	University of Wisconsin	Madison 6
*Doerflinger, Jon A.	415 Sterling Court	Madison
Duncan, James A.	University of Wisconsin	Madison 6
Eastman, Harold D.	Carroll College	Waukesha
Fuguitt, Glenn V.	University of Wisconsin	Madison 6
*Hoffman, O. T.	Lakeland College, R.R. 1	Sheboygan
*Hubble, Maurice	3118 Harvey Street	Madison
*Johnson, Donald E.	University of Wisconsin	Madison 6
Kolb, J. H.	University of Wisconsin	Madison 6
Kreitlow, Burton W.	University of Wisconsin	Madison 6
Marshall, Douglas G.	University of Wisconsin	Madison 6
*Michelena, José A. Silva	15 S. Charter Street	Madison
*Nashold, R. Duane	University of Wisconsin	Madison 6
Nylin, V. E.	Wisconsin State College	Platteville
*Orman, Allan D.	929 High Street	Madison 5
*Quinney, Earl	University of Wisconsin	Madison 6
Sewell, William H.	University of Wisconsin	Madison 6
*Sonnad, S. R.	University of Wisconsin	Madison 6
Straus, Murray A.	University of Wisconsin	Madison 6
*Watson, Walter B.	317 W. Miff. n	Madison 3
Wileden, A. F.	University of Wisconsin	Madison 6
Wilkening, Eugene A.	University of Wisconsin	Madison 6
*Wood, Nancy Joan	8 South Mills	Madison

*Student membership.
**Emeritus membership.

PUERTO RICO (10)

Bravo, Felix A.	Department of Agriculture and Commerce	Santurce
Collazo, Jenaro Collazo	51 Arecibo Street	Hato Rey
Garcia, Hector	1622 Vallejo Street	Rio Piedras
Montes, Carlos E.	Agricultural Experiment Station	Rio Piedras
Ortiz, Enrique R.	Box 503	Lajas
Plyler, H. Ellis	Robinson School	Santurce
Ramirez, Martin Hernandez	811 Vesta Street	Rio Piedras
Santos, Luis Rivera	Department of Agriculture and Commerce	San Juan
Vazquez-Calcerrada, Pablo B.	Box 8157, Social Programs Administration	Santurce
Wale, Fred G.	Division Education de la Communidad	San Juan

Foreign (52)

BELGIUM (1)

Clemens, René	6 quai Van Beneden	Liège

BRAZIL (2)

Freitas, Marcondes, J. V.	Rua Pedrose de Moraes, 743	Sao Paulo
*Oliveira, Fernando C.	Av. Getulio Vargas 1135	Porto Alegre, Rio Grande do Sul

BRITISH GUIANA (1)

Vaughan, Theo L.	USOM, Box 337	Georgetown

BRITISH WEST INDIES (1)

Thelwell, A. F.	c/o Christiana Area Land Authority	Christiana, Jamaica

CANADA (8)

Baker, W. B.	University of Saskatchewan	Saskatoon, Saskatchewan
Brown, J. F.	201 Co-op Block	Regina, Saskatchewan
Chapman, H. E.	1414—11th Street East	Saskatoon, Saskatchewan
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